



**UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN**

## **Faculty of Veterinary Medicine**



## **SELF-EVALUATION REPORT**

**May 2012**

**University of Warmia and Mazury in Olsztyn**  
**Faculty of Veterinary Medicine**

# **Self-Evaluation Report 2012**

**Edited by**

Prof. dr. hab. Jerzy Jaroszewski  
Department of Pharmacology and Toxicology  
Vice–Dean for Study  
Faculty of Veterinary Medicine  
University of Warmia and Mazury in Olsztyn

**Contributors**

Prof. dr. hab. Andrzej Koncicki - Department of Avian Diseases, Dean  
Prof. dr. hab. Sławomir Zduńczyk - Department of Animal Reproduction with Clinic, Vice-Dean for Research  
Prof. dr. hab. Bogdan Lewczuk - Department of Histology and Embryology, Vice-Dean for Development

## FOREWORD

This Self Evaluation Report has been compiled with the use of the SER written on the occasion of the first visit of the Experts from the European Association of Establishments for Veterinary Education to the Faculty of Veterinary Medicine in Olsztyn in the year 1999, which then had been written by Prof. dr. hab. Wojciech Szweda.

The 2012 edition of the SER of the Faculty of Veterinary Medicine of the University of Warmia and Mazury in Olsztyn is the result of the effort of the whole Faculty, as each single member of the teaching staff has contributed to the editing of this volume by submitting data which were compiled by the contributors of each chapter.

Final evaluation and revision have been made by the Dean (Prof. dr. hab. Andrzej Koncicki) and Vice-Deans (Prof. dr. hab. Jerzy Jaroszewski, Prof. dr. hab. Sławomir Zduńczyk and Prof. dr. hab. Bogdan Lewczuk) of the Faculty of Veterinary Medicine in Olsztyn.

The help of the Dean's office personnel, especially of Mrs. Barbara Choszcz – Head of the Dean's Office in providing and updating information, is gratefully acknowledged. Also, the Faculty would like to thank Prof. dr. hab. Jerzy Kaleczyc for playing a key role in translating a conspicuous set of documents and in editing the final document.

The SER has been prepared by the FVM of the UWM in Olsztyn on the occasion of the visit of Experts from EAEVE on May 21-25. 2012. The Visiting Team is composed of the following experts:

**Prof. dr. Karl Schellander** (Bonn, Germany) Animal Production (Chairman)

**Prof. dr. Dana Pusta** (Cluj-Napoca, Romania) Basic Sciences

**Prof. dr. Arcangelo Gentile** (Bologna, Italy) Clinical Sciences

**Prof. dr. Maria Fredriksson – Ahomaa** (Helsinki, Finland) Food Hygiene

**Dr. David Black** (Carlisle, UK) Clinical Sciences (Practitioner)

**Prof. dr. Stefano Romagnoli** (Padova, Italy) EAEVE Coordinator

**Mrs. Zsuzsanna Nagy** (Vienna, Austria, EAEVE Head Office) EAEVE Rapporteur

**Prof. dr. hab. Jarosław Całka** (UWM, Olsztyn) Internal Liaison officer

*Student Member*

Dean

Prof. dr. hab. Andrzej Koncicki

**The list of the acronyms most commonly used:**

DC - Didactic Commission

DVM – Doctor of Veterinary Medicine

EAEVE - European Association of Establishments for Veterinary Education

ECTS - European Credit Transfer System

EU – European Union

FC - Faculty Council

FVM - Faculty of Veterinary Medicine

MSHE - Ministry of Science and Higher Education

NRDC - National Research and Development Centre

NSC - National Science Centre

PC - Personnel Commission

PAC - Polish Accreditation Committee

SER - Self Evaluation Report

USSM - University System of Study Management

VPWM - Veterinary Portal of Warmia and Mazury

# INDEX

<b>Chapter 0. INTRODUCTION .....</b>	<b>page</b>	<b>1</b>
<b>Chapter 1. OBJECTIVES .....</b>	<b>page</b>	<b>10</b>
1.1 FACTUAL INFORMATION .....	page	10
1.2 COMMENTS .....	page	12
1.3 SUGGESTIONS .....	page	13
<b>Chapter 2. ORGANISATION .....</b>	<b>page</b>	<b>14</b>
2.1 FACTUAL INFORMATION .....	page	14
2.2 COMMENTS .....	page	22
2.3 SUGGESTIONS .....	page	22
<b>Chapter 3. FINANCES .....</b>	<b>page</b>	<b>23</b>
3.1 FACTUAL INFORMATION .....	page	23
3.1.1 GENERAL INFORMATION .....	page	23
3.1.2 INFORMATION ON EXTRA INCOME .....	page	25
3.1.3 OVERVIEW INCOME (REVENUE) AND EXPENDITURE .....	page	26
3.2 COMMENTS .....	page	26
3.3 SUGGESTIONS .....	page	27
<b>Chapter 4. CURRICULUM .....</b>	<b>page</b>	<b>28</b>
4.1 FACTUAL INFORMATION .....	page	28
4.1.1 POWER OF SUBJECTS AND TYPES OF TRAINING .....	page	30
4.1.1.1 POWER OF SUBJECT .....	page	30
4.1.1.2 TYPES OF TRAINING .....	page	33
4.1.1.2.1 Theoretical training .....	page	33
4.1.1.2.2 Supervised practical training .....	page	34
4.1.2 UNDERGRADUATE CURRICULUM FOLLOWED BY ALL STUDENTS .....	page	34
4.1.2.1 CURRICULUM HOURS .....	page	34
4.1.3 FURTHER INFORMATION ON THE CURRICULUM .....	page	39
4.1.4 OBLIGATORY EXTRAMURAL WORK .....	page	41
4.1.5 SPECIFIC INFORMATION ON THE PRACTICAL TRAINING IN FOOD HYGIENE/PUBLIC HEALTH .....	page	42
4.1.6 RATIOS .....	page	43
4.1.6.1 GENERAL INDICATORS TYPES OF TRAINING .....	page	44
4.1.6.2 SPECIAL INDICATORS OF TRAINING IN FOOD HYGIENE/ PUBLIC HEALTH .....	page	45
4.2 COMMENTS .....	page	45
4.3 SUGGESTIONS .....	page	46
<b>Chapter 5. TEACHING AND LEARNING: QUALITY AND EVALUATION .....</b>	<b>page</b>	<b>47</b>
5.1 FACTUAL INFORMATION .....	page	47
5.1.1 THE TEACHING PROGRAMME .....	page	47
5.1.2 THE TEACHING ENVIRONMENT .....	page	49
5.1.3 THE EXAMINATION SYSTEM .....	page	50
5.1.4 EVALUATION OF TEACHING AND LEARNING .....	page	52
5.1.5 STUDENT'S WELFARE .....	page	54
5.2 COMMENTS .....	page	55
5.3 SUGGESTIONS .....	page	55

<b>Chapter 6. FACILITIES AND EQUIPMENT</b> .....	page	56
6.1 FACTUAL INFORMATION.....	page	56
6.1.1 PREMISES IN GENERAL .....	page	56
6.1.2 PREMISES USED FOR CLINICS AND HOSPITALISATION .....	page	72
6.1.3 PREMISES FOR ANIMALS .....	page	75
6.1.4 PREMISES USED FOR THEORETICAL, PRACTICAL AND SUPERVISED TEACHING .....	page	75
6.1.5 DIAGNOSTIC LABORATORIES AND CLINICAL SUPPORT SERVICES .....	page	82
6.1.6 SLAUGHTERHOUSE FACILITIES .....	page	89
6.1.7 FOODSTUFF PROCESSING UNIT.....	page	89
6.1.8 WASTE MANAGEMENT .....	page	90
6.1.9 FUTURE CHANGES .....	page	90
6.2 COMMENTS.....	page	91
6.3 SUGGESTIONS .....	page	93
 <b>Chapter 7. ANIMALS AND TEACHING MATERIAL OF ANIMAL ORIGIN</b> .....	page	94
7.1 FACTUAL INFORMATION .....	page	94
7.1.1 ANATOMY .....	page	94
7.1.2 PATHOLOGY.....	page	95
7.1.3 ANIMAL PRODUCTION .....	page	95
7.1.4 FOOD HYGIENE/PUBLIC HEATH .....	page	96
7.1.5 CONSULTATIONS AND PATIENT FLOW SERVICES .....	page	97
7.1.5.1. CONSULTATION .....	page	97
7.1.5.2. PATIENT FLOW .....	page	97
7.1.6 VEHICLES FOR ANIMAL TRANSPORT .....	page	98
7.1.7 ON-CALL EMERGENCY SERVICE .....	page	98
7.1.8 ON FARM TEACHING AND OUTSIDER PATIENT CARE .....	page	98
7.1.8.1 AMBULATORY (MOBILE) CLINIC .....	page	98
7.1.8.2 OTHER ON FARM SERVICES AND OUTSIDE TEACHING .....	page	99
7.1.9 OTHER INFORMATION .....	page	101
7.1.10 RATIOS .....	page	103
7.1.11 OTHER SPECIES .....	page	104
7.2 COMMENTS .....	page	105
7.3 SUGGESTIONS .....	page	105
 <b>Chapter 8. LIBRARY AND LEARNING RESOURCES</b> .....	page	106
8.1 FACTUAL INFORMATION .....	page	106
8.1.1 LIBRARY AND OTHER INFORMATION TECHNOLOGY SERVICES .....	page	106
8.2 COMMENTS .....	page	108
8.3 SUGGESTIONS .....	page	108
 <b>Chapter 9. STUDENT ADMISSION AND ENROLMENT</b> .....	page	109
9.1 UNDERGRADUATE COURSES .....	page	109
9.1.1 UNDERGRADUATE STUDENT NUMBERS .....	page	109
9.1.2 STUDENT ADMISSION .....	page	109
9.1.3 STUDENT FLOW .....	page	111
9.2 COMMENTS .....	page	112
9.3 SUGGESTIONS .....	page	113

<b>Chapter 10. ACADEMIC AND SUPPORT STAFF .....</b>	<b>page</b>	<b>114</b>
10.1 FACTUAL INFORMATION.....	page	114
10.2 COMMENTS.....	page	117
10.3 SUGGESTIONS .....	page	117
 <b>Chapter 11. CONTINUING EDUCATION .....</b>	 <b>page</b>	 <b>118</b>
11.1. FACTUAL INFORMATION .....	page	118
11.2. COMMENTS .....	page	119
11.3 SUGGESTIONS .....	page	119
 <b>Chapter 12. POSTGRADUATE EDUCATION .....</b>	 <b>page</b>	 <b>120</b>
12.1 FACTUAL INFORMATION .....	page	120
12.1.1 CLINICAL SPECIALTY TRAINING (INTERNS AND RESIDENTS) .....	page	120
12.1.2 RESEARCH EDUCATION PROGRAMMES .....	page	120
12.2 COMMENTS .....	page	121
12.3 SUGGESTIONS .....	page	121
 <b>Chapter 13. RESEARCH .....</b>	 <b>page</b>	 <b>122</b>
13.1 FACTUAL INFORMATION .....	page	122
13.2 COMMENTS .....	page	124
13.3 SUGGESTIONS .....	page	124

## Chapter 0

### INTRODUCTION

*written by Prof. dr. hab. Andrzej Koncicki*

*Please provide an outline of the main features of the history of the Faculty in the period since the last evaluation visit or, if there has not been a previous visit, in the last ten (10) years.*

*Main organizational changes*

The FVM is functioning within the structures of the UWM since 1999. The UWM was founded on September 1<sup>st</sup> in 1999, after the three educational institutions: the fifty-year-old Academy of Agriculture and Technology, the thirty-year-old Pedagogy College and the 450-year-old Warmian Theological Institute were merged together. The mission of the University is to multiply the intellectual capital for the balanced development of the region and country, by generating friendly conditions for achieving and creating knowledge.

The University employs about 3300 people, out of which about 1940 are teachers (including 222 professors and 303 habilitated doctors). Its sixteen faculties educate over 31600 students (from which 22800 are at full time studies and 8800 at extramural studies), as well as 530 doctoral and 2800 post-graduate students. The University provides the students with the opportunity to attain a comprehensive education in a wide range of studies: humanities, pedagogy, theology, fine arts, law, veterinary medicine, agriculture, engineering, biology, economics, mathematics and medicine (since the academic year of 2008/2009). Students have a choice of 56 academic subjects and three interdisciplinary studies. Later on, they may pursue doctoral studies in sixteen academic fields as well as 138 forms of post – graduate studies. In 2011, 6 400 full time students and 2 900 students from extramural studies graduated from the University.

The UWM is subjected for the evaluation for its curricula and quality of education by the Polish Accreditation Committee as well as institutional and specialized accreditation committees. The EAEVE declared that the FVM meets European education standards.

The University is an autonomous institution. While all of the sixteen faculties can confer doctoral degrees in twenty two fields, eleven of them have the full academic rights to confer both doctoral and postdoctoral degrees in 12 fields.

The Minister of Science and Higher Education (MSHE) has approved the University's categorization of scientific units. The first category according to the parametric evaluation of the Committee for Research and Development of Science includes the Faculties of Veterinary Medicine, Food Sciences, Environmental Design and Agriculture, Environmental Protection and Fisheries and Animal Bioengineering. The second category includes the Faculties of Humanities, Biology, Social Sciences as well as Law and Administration. The third category includes the Faculties of Economics, Medicine, Mathematics and Computer Science, Geodesy and Land Management as well as Theology. The Faculty of Technical Sciences was qualified as the fourth category, and Faculty of Arts – the fifth category.

Besides offering the top quality education, the UWM is also a dynamic centre of culture and sports. There are many cultural organizations at the University including its choir, the Song and Dance Ensemble “Kortowo”, the Cezar Student Theatre Group, the Skorpen

Academic Scuba-Diving Club and the Jamnik Student Photography Club. University students' sporting achievements are also worth mentioning. Our male volleyball team AZS UWM Olsztyn has won the Polish championship many times or either the second or the third place. The UWM students have also occupied the highest positions in other sport disciplines such as taekwondo, sailing and athletics.

Most of the UWM objects are located in Kortowo. It's the most beautiful University campus in Poland and one of the most beautiful in Europe. Students here have everything they need for life: teaching buildings, laboratories, laboratories for research, sports fields and recreation areas, dormitories, shops, services, student clubs, parks, greenery and space. Kortowo, surrounded by forest and 95 acres of the Kortowskie Lake, belonging to the University, occupies an area of 161 hectares and it is situated on the side of Olsztyn. Here one can find the beach and marina with floating equipment rental. Kortowo is a district of Olsztyn administered by the ŻAK UWM Foundation.

The UWM ŻAK Foundation manages 13 dormitories which may house 4 185 students. Three dormitories are located around the city and may house 1132 students. The remaining 3 053 students live in dormitories located inside the University campus. There are numerous gastronomy objects in Kortowo with the largest, on-campus dining hall, called “KUŹNIA SMAKÓW”, which can accommodate 600 people at the same time. The aim of the University is to improve students' living conditions. The standard of dormitories is raised yearly through redecorating and adding necessary equipment. The process of insulating the dormitories is now coming to the end and it will decrease utilization costs and environmental pollution. The dormitories have been equipped with Internet and satellite facilities. To increase students' physical health some of the dormitories have also been equipped with fitness centre. Additionally, all the dormitories have been made disabled-friendly.



Kortowiada is the students' festival at the UWM and it is the largest event in Olsztyn. It takes place every May since 1959 on the Kortowo campus, always lasting four days. During

Kortowiada, students organize many parties including the most famous and oldest: residence halls' competition, battle of the faculties, sports competitions, beauty pageant and mud football match. In the evenings there are numerous concerts outside and in the clubs. The most popular concerts take place on Kortowo Hill attracting 40 000 spectators from all over Poland.

The Student Parliament of the Republic of Poland awarded the UWM the title of a student-friendly University twice – in 2004 and 2008. Seventy universities were competing for this honorable title.

Students' active participation in the work of the UWM Senate and recruitment committees, facilitating communication with the faculties' authorities, and the manner of dealing with disagreements have influenced the Student Parliament decisions. The Student Parliament also took into account the possibility of individualizing the course of studies, teaching foreign languages free of charge, number of students per one professor, protecting dissertations against plagiarism, the general conditions for studying and relaxing and finally – the possibilities of developing students' interests. Other things taken into account were the number of places in student accommodations, their standard and accessibility for the disabled, the library's collection, support for students' work, financial support for the 150 scientific societies and student organizations. The Parliament appreciated the University's Radio Station UWM FM, Kortowo Television and magazines, Song and Dance Ensemble “Kortowo”, University Choir “Wawrzyczki”, student's festival “Kortowiada” and lastly, students' sport achievements.

The UWM scientific research includes its fundamental statutory activity, personal research, research projects, target projects, investments serving the needs of research and development work, research support, ministry programmes, financing the upkeep of scientific equipment, projects financed by structural funds of the European Union, commissioned work, grants for financing scientific projects. Research projects realized at the University (297 personal projects and 189 statutory projects in 2011), financed through grants from the Ministry of Science and Higher Education, National Science Centre as well as National Research and Development Centre included: doctoral dissertation projects, personal projects including habilitation projects dealing with subjects suggested by an applicant, commissioned according to the list of subjects set by the national framework programme or multiannual framework programme, developmental projects aiming at scientific tasks which become the basis for practical applications, target projects involving industrial research, special projects which are a part of international programmes and are not co-financed by foreign capital. Research projects which are called “University grants” are financed from funds allocated for personal research. They are submitted to the Senate Science Committee which then decides about their realisation within the period of up to 24 months.

#### *New regulations relating to teaching*

The Higher Education Act of 27 July, 2005 and its amendment of 18 March, 2011 as well as the UWM Statute (UWM Senate Resolution No. 785 of 25 November, 2011 on introducing new standards and species-oriented teaching) are the main regulations relating to teaching.

### *New buildings or major items of equipment*

The investments accomplished by the FVM in the years 2007–2011 were determined by seven tasks which aimed to: 1) extension and modernization of facilities for animals for research and educational purpose in the field of contagious diseases and basic subjects, 2) development of research studies conducted on trial of molecular and cell biology, 3) implementation of modern methods of image and laboratory diagnostic, 4) development of minimally invasive surgery, 5) development of research concerning pharmacology and toxicology, 6) improvement of didactic infrastructure and 7) buildings thermo-modernization.



Within the operations for extension and modernization of facilities for animals the Pavilion for Birds Experimental Infections was build and there were major reconstructions made in the Pavilion for Mammalian Infectious Diseases, the Insulation–Observation Pavilion for Carnivorous Animals and in the Rodents Vivarium. The Fish Diseases Laboratory equipped with twenty pools for experimental and didactic fishes was build. There were also renovations made in the vivaria for swine, small ruminants, rabbits and birds, situated in the pavilion 105C which are used for educational and research purpose mainly in the field of basic subjects. The investments accomplished in the years 2007–2011 were the continuation and supplementation of earlier work, during which vivaria for large animals at the Department of Animal Reproduction with Clinic, Department of Internal Medicine with Clinic and the Department of Surgery and Radiology with Clinic were modernized and the Polyclinic and Mobile Clinic were constructed.

In the last five years a lot of effort was put into the development of research studies and education conducted on the trial of molecular and cell biology. Within the faculty following

workrooms were formed: 1) Genomics and Transcriptomics Laboratory, 2) Molecular Food Testing Laboratory, 3) Molecular Biology Laboratory of Avian Diseases, 4) Flow Cytometry Laboratory and 5) Biotechnology Laboratory. All of them were equipped properly with research tools. The following workrooms were modernized and additionally equipped: Molecular Biology Laboratory of Mammalian Diseases Diagnostic, Electron Microscopy Laboratory, Confocal Microscopy Laboratory, Cell Culture Laboratory and many others.

Within the operations for implementation of modern diagnostic methods apparatus for magnetic resonance imaging (MRI), USG apparatus with Doppler system and high class haematological and biochemical analysers were purchased. Additionally, there were major reconstructions made in the Department of Clinical Diagnostics. The Faculty also purchased novel equipment for laparoscopic and arthroscopic treatments.

The investments for the development of research and education concerning pharmacology and toxicology involved major reconstruction of the Laboratory of Veterinary and Environmental Toxicology at the Department of Pharmacology and Toxicology, purchase of the HPLC–MS apparatus for the Chromatographic Laboratory within this Department and supplementation of the equipment in Feed Toxicology Laboratory at the Department of Veterinary Prevention and Feed Hygiene.

Renovation of the Dean's Office was executed in 2008.

In 2009 major reconstruction of lecture halls was undertaken. The investment has included the installation of high quality audio-visual systems as well as the illumination and dimming systems connected with integrated control panel. Two new exercise classes for practical histology, physiology and pharmacology training were constructed. For histology (since 2010) and histopathology (since 2011) teaching, the system of virtual microscopy was effectuated, which enhances the effectiveness of learning process. Additionally, in the years 2007–2011 the laboratory exercise class of animal feeding and fodders hygiene was equipped with new laboratory apparatuses, seminary hall at the Department of Clinical Diagnostics was formed and computers in the Informatics Class were renewed. The separate facility for Students Government was demarcated. Five computer capacities were formed, assuring 24 hours access to the university computer network, including the specialized database. In both Faculty buildings the access to wireless computer network “Eduroam” was activated. In February 2012, the Veterinary Portal of Warmia and Mazury (VPWM) was activated, which, in the nearest future, will be the source of specialized information for Faculty students.

The comfort of work and teaching at the Faculty has been associated with thermo–modernization of both buildings which was accomplished in 2010.

Investment operations are continued. Facility for isolation of large animals is being build, tendering procedure concerning the adaptation and equipping of the facilities for Fodder Pests Laboratory and the building of the Disinfection and Disinsectization Laboratory are undertaken. Documentation concerning modernization of the Department of Animal Anatomy (including the dissecting rooms), Department of Pathological Anatomy (including the section hall, Histopathological Laboratory and the histopathology class room), microbiology, parasitology, physiopathology class rooms are being prepared.

## **Timetable of modernizations and purchase of equipment**

### **Years 2007–2008**

1. Modernization of the Chromatographic Laboratory at the Department of Pharmacology and Toxicology – facilities renovation, laboratory apparatuses purchase, including chromatograph with mass spectrometry (HPLC–MS).
2. Modernization of the Electron Microscopy Laboratory at the Department of Histology and Embryology – facilities renovation and purchase of transmission electron microscope equipped in three dimensional imaging system.
3. HPLC Laboratory creation at the Department of Histology and Embryology – facilities adaptation and purchase of equipment, including two HPLC systems (with fluorescent detector and multi - channel electrochemical detector).
4. Facilities renovation and purchase of new laboratory furniture for the Radiochemical Laboratory at the Department of Histology and Embryology.
5. Modernization of the facilities for experimental animals (swine, sheep, goats, rabbits and birds) and surgery hall in the building 105C.
6. Building of the ice-house for amphibians in the building 105C.
7. Renovation of the facilities and new office and laboratory furniture purchase at the Department of Clinical Diagnostics.
8. Modernization of the Food Microbiology Laboratory at the Department of Veterinary Protection of Public Health – facilities renovation and new furniture as well as the science equipment purchase.
9. Purchase of the laboratory equipment for the Endocrinology Laboratory at the Department of Animal Reproduction with Clinic and for the Biochemistry and Haematology Laboratories at the Department of Internal Medicine with Clinic.
10. Renovation of the Dean's Office facilities.

### **Year 2009**

1. Modernization of the lecture halls under the names of: Prof. H. Janowski, Prof. K. Markiewicz and Prof. S.Tarczyński.
2. Creation of the new classroom for histology practical exercises – facility adaptation, purchase of scanner for histological sections, microscopes, computers and furniture.
3. Creation of the new classroom for physiology and pharmacology practical exercises – facility adaptation, purchase of the necessary classroom equipment.
4. Creation of the Genomics and Transcriptomics Laboratory at the Department of Animal Anatomy – facilities adaptation, furniture and laboratory equipment purchase, including genetic analyser for DNA sequencing, apparatus for fluorochrome marked gels record, PCR and RT – PCR thermocyclers and stereoscopic microscope with accessory for microinjections.
5. Modernization of the Laboratory of Veterinary and Environmental Toxicology at the Department of Pharmacology and Toxicology – facilities renovation, laboratory equipment and furniture purchase.
6. Modernization of the Biotechnology Laboratory at the Department of Pharmacology and Toxicology - facilities renovation, laboratory equipment and furniture purchase.

7. Creation of the Laboratory of the Molecular Food Testing Laboratory at the Department of Veterinary Protection of Public Health - facilities renovation, laboratory equipment (including PCR thermocycler, laminar chambers, and gels recording apparatus) and furniture purchase.
8. Creation of the Flow Cytometry Laboratory at the Department of Avian Diseases – purchase of the flow cytometer, ultracentrifuge and additional equipment.
9. Purchase of the confocal microscope and the renovation of facilities of the Confocal Microscopy Laboratory at the Department of Animal Anatomy.
10. Purchase of the research equipment (including autosampler for HPLC, fodder grinder, laboratory dishwasher) for the Feed Toxicology Laboratory at the Department of the Veterinary Prevention and Feed Hygiene.
11. Purchase of the research equipment for the Cell Culture Laboratory at the Department of Histology and Embryology, including accessory for microinjections, accessories for the studies of live cells with the use of fluorochromes, incubator, autoclave, dishwasher.
12. Purchase of the research equipment (i.a. RT – PCR thermocycler, microplate reader, ultra – freezer) for the Department of Epizootiology.
13. Purchase of the scintillation counter, plate fluorescence spectrophotometer, sample vacuum concentrator, water purifying system and dishwasher for the Radiochemical Laboratory at the Department of Histology and Embryology.

#### **Year 2010**

1. Thermo – modernization of the buildings of the FVM.
2. Modernization of the Pavilion for Mammalian Infectious Diseases (pavilion 105B) – facilities renovation, installation of the ventilation system with negative pressure gradient and HEPA filters, installation of monitoring system and equipment purchase.
3. Creation of the Laboratory of Fish Diseases (pavilion 105B) – facilities adaptation and purchase of the complete systems for fishes breeding and waste disinfection.
4. Modernization of the Rodents Vivarium (pavilion 105G) – building reconstruction, installation of the ventilation system with positive pressure gradient and HEPA filters, purchase of the equipment for SPF and conventional rodents breeding.
5. Modernization of the Observation Block for Rabies-Suspected Animals - building reconstruction, installation of monitoring system.
6. Creation of the Molecular Biology Laboratory at the Department of Avian Diseases – facilities adaptation, purchase of the equipment and laboratory furniture.
7. Purchase of the Cell Sorter for the Flow Cytometry Laboratory at the Department of Avian Diseases.
8. Purchase of the apparatus for magnetic resonance imaging for the Department of Surgery and Radiology with Clinic.
9. Purchase of the novel equipment for laparoscopic and arthroscopic treatments for the Department of Surgery and Radiology with Clinic.
10. Purchase of the clinical analysers (biochemical and haematological) for the Department of Clinical Diagnostics and Department of Internal Medicine with Clinic.

11. Purchase of the USG apparatus with Doppler system, EKG apparatuses (stationary and Holter) and pulsoxymetr for the Department of Clinical Diagnostics.
12. Purchase of the EEG apparatus for the Department of Internal Medicine with Clinic.
13. Purchase of the laboratory equipment (gamma counter, ELISA reader and washer) for the Endocrinology Laboratory at the Department of Animal Reproduction with Clinic.
14. Purchase of the semen analyzing system for the Department of Animal Reproduction with Clinic.

#### **Year 2011**

1. Construction of Pavilion for Birds Experimental Infections.
2. Purchase of the flow cytometer with cell image display (ImageStream) for the Flow Cytometry Laboratory at the Department of Avian Diseases.
3. Purchase of the scanner for histological sections for the Department of Pathological Anatomy.
4. Purchase of the 3D scanner for anatomical section digitalization.
5. Purchase of the computers for Informatics Classroom and Histopathological Laboratory.
6. Creation of the Veterinary Portal of Warmia and Mazury.
7. Design and building of the isolation facility for large animals.

#### **Investment programs realized at the Faculty of Veterinary Medicine of the UWM in Olsztyn in the years 2007 – 2011.**

1. Investment program: “Modernization and equipping of the Complex of Laboratories for Measurement of Animal Origin Food Health Quality and Veterinary Prophylaxis at the Faculty of Veterinary Medicine of University of Warmia and Mazury in Olsztyn”, financed by Ministry of Science and Higher Education in the years 2006 – 2008.
2. Investment program: “Extension, modernization and equipping of the Educational and Experimental Complex of Laboratories for Technology, Quality and Health Safety of Food” (project BIO), financed within Regional Operational Program “Development of Easter Poland”, realized in the years 2009 – 2011.
3. Investment program: “Purchase of the scientific and experimental equipment for the Centre of Innovative Diagnostic and Therapeutic Techniques”, financed within Regional Operational Program “Development of Easter Poland”, realized in the years 2009 – 2010.
4. Investment program: “Creation of the Veterinary Portal of Warmia and Mazury together with the creation of data bases and resources digitalization”, financed within Regional Operational Program Warmia and Mazury for the years 2007 – 2013 and realized in the years 2010 – 2012.
5. Investment program: “Purchase of the ImageStream flow cytometer”, financed by Ministry of Science and Higher Education in the year 2010.
6. Investment program: “Creation of the laboratory for biological risk analyzing and compilation of the biosecurity methods in animal breeding, fodder industry and food

industry”, financed within Regional Operational Program Warmia and Mazury for the years 2007 – 2013 and realized in the years 2011 – 2013.

Cumulatively in the last four years the Faculty invested in the scientific, educational and experimental equipment an amount of 19 700 000 PLN (€ 4 900 500) and in the infrastructure improvement 18 600 000 PLN (€ 4 626 800), altogether it gives 38 300 000 PLN (€ 9 527 300).

#### *Main changes to the study program*

The study program has been changed to meet new standards described in the Higher Education Act of 27 July, 2005 with its amendment of 18 March, 2011. Most of the practical “in – the – clinic” training will take place during the last two semesters. Moreover, the curriculum of all four Faculties of Veterinary Medicine in Poland has been unified to ensure easy student mobility.

#### *Important decisions made by the management of the Faculty, or by the authorities responsible for it*

- Modernization of the buildings and equipment renewing in didactic halls and laboratories.
- High proportion of practical training of students.
- Reduced publishing requirements in Faculty’s science rankings for the clinics employees and employees participating in students clinical training.
- Financial support from the Faculty financial means for the clinical activity as well as for research and didactic activity in the field of diagnostics with the use of molecular biology methods.

#### *Major problems encountered by the Faculty, whether resolved or not*

Funds obtained by the UWM and the Faculty for salaries as well as funds for materials used during practical training, including live animals, are somewhat inadequate to the actual needs (underfunding of didactic activity). As a solution to this problem didactic activity is supported with the funds attained by the Faculty employees for the research activity and from the income from service activities.

# Chapter 1

## OBJECTIVES

*written by Prof. dr. hab. Andrzej Koncicki*

### 1.1 FACTUAL INFORMATION

*Indicate whether there is an official list of the overall objectives of the Faculty. If this is the case, please indicate these.*

#### FACULTY MISSION

The Mission of the FVM is:

- to provide a high quality teaching environment and excellent research-based teaching,
- education of veterinary science graduates able to handle wide variety of health, welfare and management problems with farm and companion animals,
- undertaking high quality research to support the teaching process as well as post-graduate and continuing education,
- to provide veterinary care for all species of animals by Faculty clinics.

This in detail is done through:

- practical training of students,
- improvement of didactic and research base of the Faculty,
- MSHE, National Science Centre and National Research and Development Centre grants applications for attaining sources for science and research activity, which are supporting didactic activity,
- recent actualizations of the criteria of science promotion,
- maintaining the first MSHE science category, what correlates with higher Faculty financing,
- currently the Faculty is trying to obtain the status of National Leading Science Centre (in cooperation with the Institute of Animal Reproduction of the Polish Academy of Sciences in Olsztyn and National Veterinary Research Institute in Pulawy). Such status would allow the Faculty to receive obligatorily additional finances from MSHE in an amount of 3 400 000 PLN (€ 845 700) yearly for 5 consecutive years.

*Who determines the official list of objectives of the Faculty?*

The official list of tasks and objectives of the FVM is determined by the Deans Board and the members of the Faculty Council.

*By what procedure is this list revised?*

The tasks and objectives of the Faculty are currently determined during the discussion at the meetings of the FC and passed as resolutions in direct voting. Additionally, every year the

evaluation of didactic (students questionnaires), science and clinical activity of particular employees is executed.

*Do you have a permanent system for assessing the achievement of the Faculty's general objectives? If so, please describe it.*

The last criteria of promotion of PhD students and academic staff as well as scientific ranking of Departments on the FVM were approved at the FC meeting on 29.10.2010. In the current year they will be updated with Hirsch Index, Citation Index and aggregate Impact Factor.

### **Promotion of PhD students and academic staff**

Table 1.1. Required science output (points criteria based on the MSHE ranking of the scientific journals) for PhD students and academic staff at the FVM UWM in Olsztyn.

No.	Degree/position	Number of MSHE points
1.	Admission to the doctoral thesis defence	40
2.	Obtaining of adjunct/assistant professor position	100
3.	Admission to the habilitation thesis defence	300
4.	Obtaining of the UWM professor position	400
5.	Raising the procedure of conferring the full professor degree	500
6.	Obtaining of the full professor position.	650

**Attention:** *Number of MSHE points is the number of points calculated for papers published in journals from ISI Master Journal List and in other journals that have at least 9 points.*

### **Additional criteria for promoting:**

- Candidate for the adjunct/assistant professor, UWM professor and full professor position, as well as the candidates for doctoral and habilitation thesis defence must document that 50% of obtained MSHE points comes from first authorship.
- Candidate is allowed to strive for the adjunct/assistant professor position immediately after doctoral thesis defence, if he is up to points standards.
- Academic staff, particularly committed to clinic activity (documented with polyclinic and mobile clinic patient list) are allowed to strive for the adjunct/ assistant professor position after obtaining 75 MSHE points or 350 points for UWM professor position.
- Candidate for the UWM professor position must additionally document the grant supervision.
- Candidate for the full professor position must document that he had promoted the doctor after the prior science promotion.

Additionally, every year the ranking of organizational units (departments) of the Faculty is executed. Every year the evaluation of didactic employees activity (students questionnaires filled by the graduates) is conducted. Additionally, every 1 – 3 years the employees are

assessed for their didactic, pedagogic, science and organizing activity based on collegial questionnaire (deputed by the UWM Cadre Office), which are then evaluated by the Faculty and UWM Personnel Commission.

## 1.2 COMMENTS

*In your view, to what extent are the objectives achieved?*

### **Extent to which objectives are being achieved:**

- Graduates of the Faculty do not have problems in finding jobs related to veterinary medicine. The students look for their jobs on their own well before completing their studies. They usually succeed and, therefore, they show little interest in job proposals sent in by owners of veterinary clinics and various institutions to the Dean's Office. Some pharmaceutical companies apply for meetings with the students to offer them job; in most cases students are not interested, however, for the teaching staff, these offers seem to be attractive.
- Graduates of the Faculty are often successful in competing for post-graduate studies. Many of them hold leadership positions in various veterinary organizations.
- During meetings with authorities of the Faculty and its alumni, about 85% of them express satisfaction with their professional careers. Officials from the Ministry of Agriculture, provincial veterinary surgeons and representatives of the Polish Veterinary Chamber who employ our graduates or observe their work are at 90% pleased with their performance and competence.
- The Faculty, recognizing the importance of a commitment to lifelong learning by the veterinary medical professionals, attempts to inspire this commitment in students.
- Overall, the learning environment seems to be satisfactory.
- Research activity is a strong point of the Faculty. Therefore, among four Polish Faculties of Veterinary Medicine, it holds the highest position on the ranking lists of the MSHE.
- The quality of services of the Faculty is monitored and constantly improved. In recent years, it has been considerably improved thanks to new facilities (small and large animal clinics) and new equipment purchases.

*What, in your view, are the main strengths and weaknesses of the Faculty?*

### **The major strengths of the Faculty:**

- Well-qualified teaching and research staff.
- A comprehensive curriculum.
- Post-graduate teaching activity.
- Outstanding scientific output.
- Adequate research facilities and equipment.
- Relatively good equipment and a high number of especially small patients in clinics.
- Well functioning mobile clinic.
- Localization of the Faculty in the agriculture region.

- Lectures and exercises (clinic) halls equipped with modern audio–visual accessories.

**The major weaknesses of the Faculty:**

- Insufficient funds for salaries of teaching staff and funds for materials used for practical training.
- An inadequate number of technical staff in some Departments.

### **1.3 SUGGESTIONS**

*If you are not satisfied with the situation, please list your suggestions for change in order of importance and describe any factors which are limiting the further development of your Faculty.*

Unfortunately, funds granted by the MSHE are not sufficient to fully take advantage of the new opportunities, and this is the most limiting factor for the Faculty. Therefore, the next move should be, in cooperation with three other Faculties of Veterinary Medicine, to urge the MSHE to introduce significant changes in financing the teaching of veterinary medicine in Poland. The authorities must recognize that veterinary education is more expensive than other disciplines. The budget must allow the Faculty to perform adequate research based teaching since well educated veterinarians are responsible not only for the animals' health and welfare, but also for food hygiene and public health associated with food safety.

Additionally, on the basis of systematically introduced e-learning method, self directed learning will be developed. Moreover, constant participation in the Erasmus program will result in undertaking cooperation with new faculties and transforming educational activity into educational–research activity. The effect of such activities will be the closer scientific cooperation which is the basis of a high quality of educational offer.

## Chapter 2

### ORGANISATION

*written by Prof. dr. hab. Andrzej Koncicki*

#### 2.1 FACTUAL INFORMATION

*Is the Faculty within a University? If so, please give address of the University. Details of the Faculty*

**Name of the Faculty:** Faculty of Veterinary Medicine

**Address:** Oczapowskiego 14, 10-719 Olsztyn, Poland

**Telephone:** +48 89 52 33 993

**Fax:** +48 89 52 33 440

**Website:** [www.uwm.edu.pl/wmw](http://www.uwm.edu.pl/wmw)

**E-mail:** [medwet@uwm.edu.pl](mailto:medwet@uwm.edu.pl)

**Title and Name of Head of the Faculty:** Prof. dr. hab. Andrzej Koncicki, Dean

The Faculty is a part of the University of Warmia and Mazury in Olsztyn

**Address:** Oczapowskiego 2, 10-719 Olsztyn, Poland

**Telephone:** +48 89 52 33 385

**Fax:** +48 89 52 34 456

**Website:** [www.uwm.edu.pl](http://www.uwm.edu.pl)

**E-mail:** [rector@uwm.edu.pl](mailto:rector@uwm.edu.pl)

*Details of the competent authority overseeing the Faculty.*

The University is headed by the Rector Prof. dr. hab. Józef Górniewicz, who together with five Vice-Rectors (Dr. hab. Wojciech Janczukowicz, prof. UWM for Educational Affairs; Prof. dr. hab. Jadwiga Wyszowska for Student Affairs; Prof. dr. hab. Tadeusz Rawa for Personnel; Dr. hab. Szczepan Figiel, prof. UWM for University Development and Prof. dr. hab. Władysław Kordan for Research and Regional Cooperation) is elected to hold office for four years.

Administration:

- Administrative Director (Chancellor): dr. ing. Wojciech Cymerman
- Administrative Vice-Director: mgr ing. Dariusz Raubo  
mgr ing. Wojciech Samulowski
- Bursar: mgr ing. Jadwiga Cierach

The Senate is the highest legislative and consultative body of the University which is comprised of representatives of faculties, and the academic and administrative staff, as well as students. The competences of the Senate are determined by the UWM Statute.

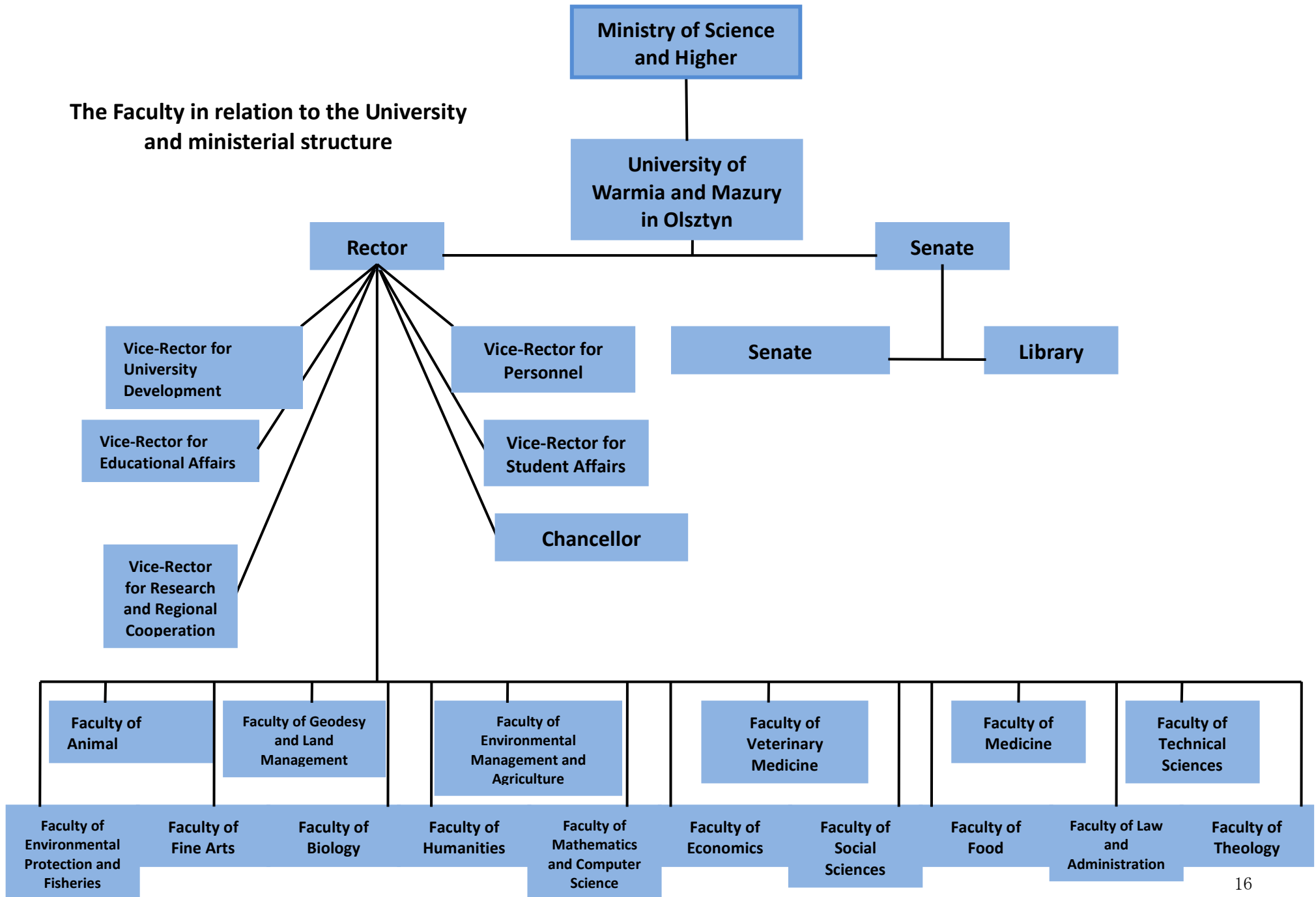
*Indicate the rules concerning the appointment of the elected officials of the Faculty (Dean, Vice-Dean, Heads of Department, etc)*

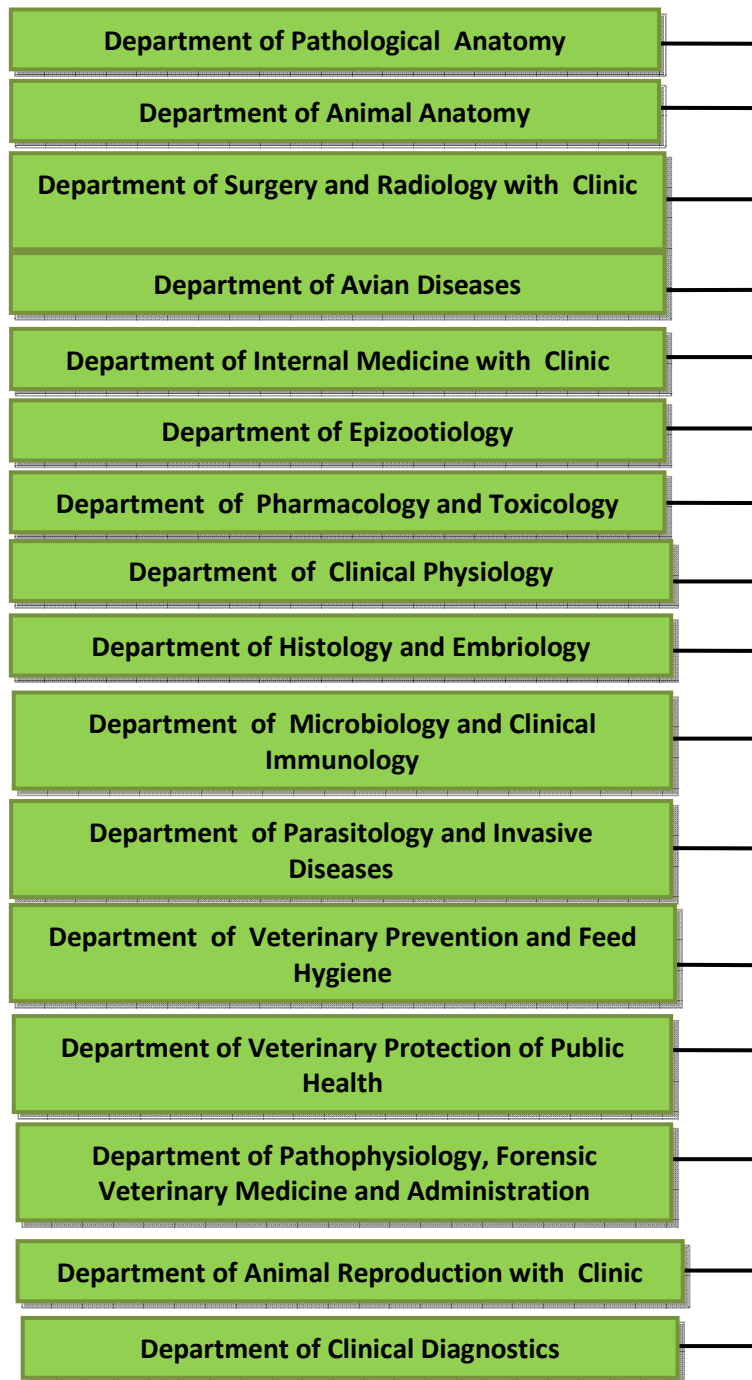
The election of the Dean and Vice-Deans is performed by the Election Committee. Appointment of the elected Faculty's authorities is regulated by the Higher Education Act of 27 July, 2005 and UWM Statute. Each group of employees, professors, other academic teachers, technical and administrative staff and students choose their representatives to the Electors Committee. The candidates who possess the title of Professor or Doctor habilitated can be appointed for the position of Dean or Vice-Dean. The candidate for the Vice-Dean for Study position has to be approved by student organization. Dean and Vice-Deans are elected for a 4 year period lasting from 1<sup>st</sup> September till 31<sup>st</sup> August. The same person can be elected only twice.

The Dean directs and represents the Faculty. He is the superior of the staff and students of the Faculty. He takes care of abiding the law, safety and order within the Faculty. The Dean undertakes decisions relating to the Faculty activities, not reserved for other University authorities or the Administrative Director. The Head of the Department is designated by the Dean and accepted by the Rector, after all employees of the Department express their opinion.

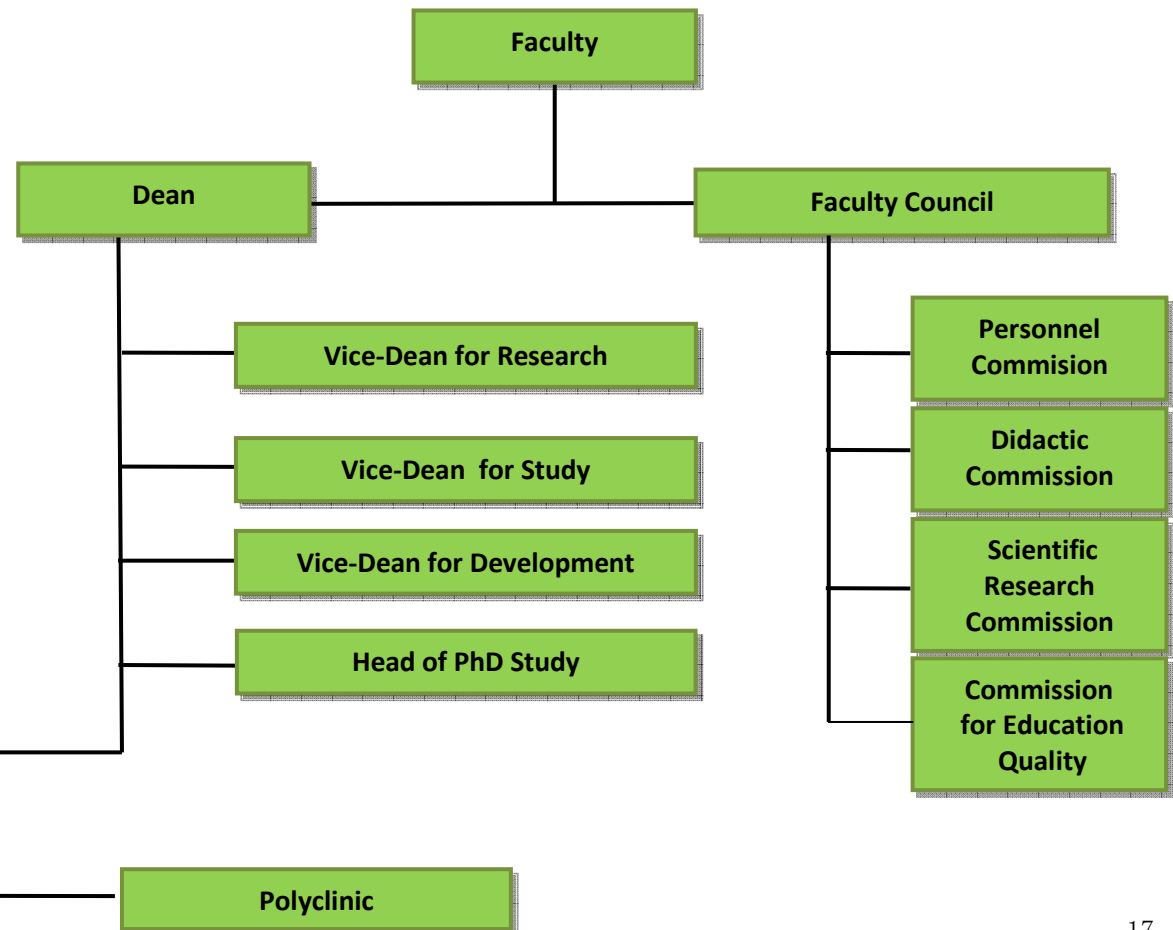
*Provide a diagram of the internal administrative structure of the Faculty itself (councils, committees, departments etc.), as well as a diagram of the administrative structures showing the Faculty in relation to the university and ministerial structure of which it is part.*

**The Faculty in relation to the University  
and ministerial structure**





## The internal administrative structure of the Faculty of Veterinary Medicine



## THE FACULTY STRUCTURE:

Up to the year 2008 at the Faculty there were five Departments with seventeen subdivisions and the Polyclinic. The Departments existing at that time were:

- Department of Infectious and Invasive Diseases
- Department of Functional Morphology
- Department of Clinical Sciences
- Department of Pathology and Pharmacology
- Department of Veterinary Protection of Public Health

Due to the fact that this structure was not corresponding to the UWM Statute (Statute did not allow for existing subdivisions inside the Departments) in 2008, sixteen Departments and Polyclinic were raised and they have been functioning up to this day. The following Departments exist at the Faculty:

- Department of Pathological Anatomy - Head Prof. dr. hab. Tadeusz Rotkiewicz
- Department of Animal Anatomy – Head Prof. dr. hab. Jerzy Kaleczyc
- Department of Surgery and Radiology with Clinic – Head Prof. dr. hab. Zbigniew Adamiak
- Department of Avian Diseases – Head Prof. dr. hab. Andrzej Koncicki
- Department of Internal Medicine with Clinic – Head dr. hab. Andrzej Pomianowski, prof. UWM
- Department of Epizootiology – Head Prof. dr. hab. Wojciech Szweda
- Department of Pharmacology and Toxicology – Head Prof. dr. hab. Jerzy Jaroszewski
- Department of Clinical Physiology – Head Prof. dr. hab. Jarosław Całka
- Department of Histology and Embryology – Head Prof. dr. hab. Bogdan Lewczuk
- Department of Microbiology and Clinical Immunology – Head Prof. dr. hab. Andrzej K. Siwicki
- Department of Parasitology and Invasive Diseases – Head dr. hab. Rajmund Sokół, prof. UWM
- Department of Veterinary Prevention and Feed Hygiene – Head Prof. dr. hab. Maciej Gajęcki
- Department of Veterinary Protection of Public Health – Head Prof. dr. hab. Jan Uradziński
- Department of Pathophysiology, Forensic Veterinary Medicine and Administration – Head dr. hab. Andrzej Kowalski, prof. UWM
- Department of Animal Reproduction with Clinic – Head Prof. dr. hab. Tomasz Janowski
- Department of Clinical Diagnostics – Head Prof. dr. hab. Andrzej Depta
- Polyclinic – Head Prof. dr. hab. Andrzej Raś

In 2009 within clinical departments (Department of Animal Reproduction with Clinic, Department of Surgery and Radiology with Clinic, Department of Internal Medicine with Clinic, Department of Epizootiology and Department of Clinical Diagnostics) three coordinators of the species-oriented teaching were elected in the field of:

- Farm Animal Diseases – Prof. dr. hab. Tomasz Janowski
- Horses Diseases – Prof. dr. hab. Andrzej Raś
- Dog and Cat Diseases – Prof. dr. hab. Andrzej Depta

Professors listed are responsible for coordination of the education in these three fields.

This action is aimed at creating, in the nearest future, three (instead of five) Departments:

- Department of Farm Animal Diseases
- Department of Horse Diseases
- Department of Dog and Cat Diseases

*Describe, briefly the responsibilities, constitution and function of the main administrative bodies (councils, committees etc.)*

### **Current authorities of the Faculty are:**

Dean - Prof. dr. hab. Andrzej Koncicki

Vice-Dean for Research - Prof. dr. hab. Sławomir Zduńczyk

Vice-Dean for Study - Prof. dr. hab. Jerzy Jaroszewski

Vice-Dean for Development – Prof. dr. hab. Bogdan Lewczuk

### **Faculty Council**

The FC is a collegial body which has regular meetings every month. According to the Higher Education Act and the University Statute, all groups of employees and students are represented in the FC by:

1. Dean as chairman
2. Vice-Deans (3 persons)
3. Senior academic staff (33 persons – 60%)
4. Representatives of other academic staff (7 persons - 13%)
5. Representatives of non-academic staff (4 persons - 7%)
6. Representatives of the Student Government and PhD students (11 persons –20%)

### **Major competences of the Faculty Council**

According to the Statute, Faculty Council:

- determines and supervises the main directions of the Faculty activity,
- expresses the opinion of the academic community on matters vital for the Faculty and expresses opinions on matters referred by the Dean,
- guards the high ethical level of university employees, PhD students and students,
- approves curricula and syllabuses in cooperation with the Student Government,
- approves programs of PhD studies,
- supervises quality of the teaching process,
- evaluates quality of research,
- expresses opinions concerning scientific degrees and titles, including *doctor honoris causa*,
- approves changes in the Faculty structure,
- expresses opinions concerning hiring new employees,
- establishes budget dispensation,

- approves financial statements,
- calls Faculty Commissions,
- approves Dean's annual reports,
- evaluates Dean's activities,
- decides in all matters vital for the Faculty (in accordance to the UWM Statute and Higher Education Act).

## **Faculty Commissions**

The members of the Faculty commissions are designated by the Dean and approved by the FC. Currently there are four Commissions.

### **1. The Didactic Commission (Chairman: Prof. dr. hab. Jerzy Jaroszewski)**

Commission objectives:

- Evaluation of projects related to the teaching curriculum for each study year
- Evaluation of the teaching process
- Consideration and implementation of initiatives aimed at introduction of more flexible and internationally oriented education
- Evaluation and assessment of teaching processes in other UWM Faculties, in which the FVM employees participate
- Requests for awards for Faculty and students related to extraordinary teaching and academic achievements
- Evaluation of the social–economic conditions of veterinary medicine students
- Evaluation and planning of the Faculty's post–graduate studies
- Promotion of the Faculty through the involvement of academic staff and students in both in-house and outside promotional events
- Consideration of teaching related ideas and opinions
- Other objectives set by the Commission's Chairman

### **2. The Scientific Research Commission (Chairman: Prof. dr. hab. Sławomir Zduńczyk)**

Commission objectives:

- Evaluation of the quality of scientific research conducted by the Faculty
- Evaluation of cooperation with foreign countries in the field of scientific research
- Assessment of scientific research reports
- Assessment of UWM grant requests
- Consideration of outstanding research achievement award requests
- Assessment, planning, and development of PhD studies
- Evaluation of scholarship requests of candidates for PhD studies
- Performance evaluation of the Veterinary Medicine Student Association
- Work related to the promotion of the Faculty
- Advancement of Commission proposals and assessments related to the scientific research

### **3. The Personnel Commission (Chairman: Prof. dr. hab. Sławomir Zduńczyk)**

Commission objectives:

- Evaluation of Faculty support personnel
- Evaluation of the employees' social economic conditions and issues related to workplace safety
- Preparation of proposals and opinions regarding financial, operational and employment related matters
- Other objectives outlined by the Commission's Chairman

### **4. The Commission Education Quality (Chairman: Prof. dr. hab. Jerzy Jaroszewski)**

Commission objectives:

- Evaluation of the quality of education.
- Analysis of student questionnaires in relation to the curriculum
- Analysis of questionnaires evaluating academic staff
- Elaboration of plans and schedule for corrective actions to eliminate deficiencies and improve the quality of education
- Other objectives set by the Commission's Chairman

### **Additional interfaculty units existing at the UWM:**

- Library
- Physical Education and Sport Study
- Department of Physical Education
- Department of Chemistry Education
- Department of Foreign Languages
- Editorial Board
- Academic Culture Centre
- Academic Media and Promotion Centre
- UWM Archive and Museum
- Innovations and Technologies Transfer Centre
- Renewable Energy Research Centre
- Regional Informatics Centre

The FVM of the UWM in Olsztyn together with Polish Academy of Sciences and Committee of Veterinary Sciences edits Polish Journal of Veterinary Sciences (IF ~ 0.5) – editor in Chief Prof. dr. hab. M. Łakomy and associate editors Prof. dr. hab. J. Kaleczyc and Prof. dr. hab. K. Wąsowicz (Department of Animal Anatomy, the FVM of the UWM in Olsztyn).

*Indicate the involvement of the veterinary profession and general public in the running of the Faculty:*

There is a strong involvement of the official representatives of the profession in the running of the Faculty. The Faculty's authorities maintain close links with the leadership of the Polish Academy of Sciences, National Veterinary Research Institute in Pulawy, National and Warmia and Mazury's Veterinary Chamber and veterinary administrative departments of

public health. The majority of the academic staff are members of Warmia and Mazury's Veterinary Chamber. Many employees are doing private practice in their spare time. Decisions vital for the functioning of the Faculty in the context of its educational mission are made after consultations with the National Veterinary Chamber. This approach is very helpful in maintaining the quality of education and in adjusting the teaching process to the actual needs of the job market.

## **2.2. COMMENTS**

No comments

## **2.3. SUGGESTIONS**

It is absolutely necessary to apprise the competent authorities of the importance of the veterinary profession for food safety and public health. It can be achieved by the cooperation of all four Faculties and the National Veterinary Chamber. The Faculty of Veterinary Medicine is suggested to have greater autonomy. All decisions concerning the operation of the Faculty, including the distribution of the budget should be assigned to the Dean and the FC.

## **Chapter 3**

### **FINANCES**

*written by Prof. dr. hab. Andrzej Koncicki*

#### **3.1 FACTUAL INFORMATION**

The FVM is a part of the UWM in Olsztyn. All the revenues are retained within the UWM and subsequently redistributed among various units. The FVM is incorporated into the central financial system of the University on a par with other faculties. The UWM operates a calendar year based budget, from January 1<sup>st</sup> to December 31<sup>st</sup>, and not the academic year. The FVM has no financial independence. It is one of sixteen faculties of the UWM, which, as the University receives money from the Central Budget through the MSHE.

##### **3.1.1 GENERAL INFORMATION**

*Indicate whether the Faculty's current financial model (system) meets the Faculty's mission.*

The Faculty is incorporated into the central financial system of the university on a par with other faculties.

The UWM acquires revenues from various sources and distributes them among faculties and interfaculty units.

**There are the following sources of income for the teaching and research activities of the UWM:**

**a) for teaching purposes:**

- funds from the national budget (MSHE),
- revenues from private bodies.

**b) for research purposes:**

- funds from the national budget (MSHE; funds for statutory activity),
- revenues from research grants from the MSHE, NSC, NRDC EU, industry, etc. (each research grant has separate accounting and is closely controlled).

*In addition please specify:*

- i. How the allocation of funding (including public funding) to the Faculty is determined, and by what body.*
- ii. If the allocation of funds, or any significant proportion of it, is linked to a particular factor (e.g. student numbers, research output), please describe this.*
- iii. Please describe:*
- iv. How the allocation of funding (including public funding) to the Faculty is determined, and by what body.*

- v. *How the basis for funding the Faculty compares with those teaching other courses (e.g. whether veterinary training receives a higher budget weighting compared to other disciplines).*
- vi. *How the allocation of funds within the Faculty is decided and what are the mechanisms for funding major equipment and its replacement?*
- vii. *iv. The mechanism(s) for funding capital expenditure (e.g. building work, major items of equipment) and how decisions are taken in this matter.*
- viii. *v. The mechanism(s) to provide the necessary support for building maintenance and how decisions are taken in this matter.*

The basis for the division of the budget subsidy, for teaching purposes and its allocation to faculties, is an algorithm established by the MSHE. The funds from the MSHE are awarded based on the policy of the Ordinance of 9 May, 2008 on rules of the allocation of national budget funds to public and independent Universities (Journal of Laws No. 89 item 544 of 23 May, 2008) with further changes.

The basis (70%) of funds is formed by constant, previous year transfer (called the base) and remaining 30% is formed by variable indicators (scales). The indicators are: indicator of student – doctoral component scale (0.35), indicator of academic staff component scale (0.35), indicators of balanced development and research component scale (0.10 each), indicators of permissions and international transfer component scale (0.05 each). It takes into account cost – absorptive coefficients. For faculties involved in theoretical teaching (e.g. humanities disciplines) the coefficient is the lowest and amounts to 1. Veterinary medicine is one of a few disciplines which have the highest rating (the coefficient amounts to 3).

The distribution of incomes within the University is carried out in accordance with the resolution of UWM Senate (called primary funds division). Based on the Senate resolution, 30% of Ministerial funds are dedicated to purposeful activities (for example renovations), to the Library, Physical Education and Sport Study, and Foreign Languages Study. They also finance the University's costs and constitute the University's budget reserve. Remaining 70% of Ministerial funds are divided among Faculties based on the UWM algorithm established rules (similar to the MSHE). This funds are dedicated centrally (by the UWM) to employees earnings and didactics. Funds (dedicated to the Faculty) are then divided among Departments based on the number of realized didactic hours.

The funds for research from the national budget are distributed directly by the Ministry among the faculties, according to the position on the national ranking list. The FVM has an impressive scientific output and it is ranked in the highest evaluated group of faculties. Other principles of funds distribution includes: quality and quantity of scientific publications, revenues from research grants, services, revenues from organized meetings and conferences, and post-graduate studies.

The UWM indirect costs for the sources, that the Faculty obtain from the Ministry for statutory activity, as well as for Grants realization amount to 30%. The UWM indirect costs for sources from the European Union amount even to 60%. Decisions, concerning the level of UWM indirect costs, are made by Rector of UWM after deliberation with the University Budget and Financial Commission and approved by the Senate.

The Faculty's funds obtained from the Ministry for the statutory activity (deducted by the UWM indirect costs – 30%) are divided among Departments based on their science ranking. This ranking is created based on the last four years science achievements (number and quality

(IF) of publications) of employees of each unit (90% of funds). Remaining 10% is divided based on the Department size (large, medium, small) and its adequate indicator (1.5; 1 and 0.5). Additionally, before funds allocation, the amount of 25 000 PLN (€ 6 200) is awarded for Faculty's driver salary, 30 000 PLN (€ 7 500) for the support of clinical activity and 30 000 PLN (€ 7 500) for the application of veterinary molecular biology diagnostic methods. About 3% of obtained funds constitute the Dean's reserve which can be used under extraordinary conditions. Unused funds must be spent in the following year. Otherwise, unused funds for statutory activity must be returned to the Ministry (at our Faculty this kind of situation never took place).

The funds for main science – research and didactic apparatuses purchase are granted based on the apparatuses applications by the MSHE. Apparatuses purchase is also effectuated within NSC, NRDC and EU's science projects realization.

The Faculty's infrastructure was improved thanks to the sources obtained from EU. Temporary renovations of laboratories are financed by sources obtained for statutory and/or service activity and sporadically from UWM sources. The most important source for research studies are the grants obtained from the MSHE and EU (till 2010) and from 2011 from NSC, NRDC (due to research studies financing system reorganization) and EU. In 2011 the Faculty was realizing 33 research projects amounting to 4398 900 PLN (€ 1094 500) obtained from the Ministry and one EU's project amounting to 1 720 000 PLN (€ 427 850).

### 3.1.2 INFORMATION ON EXTRA INCOME

*What percentage of income from the following sources does the veterinary teaching Faculty have to give to other bodies (university, etc.)?*

- ✓ *clinical or diagnostic work:*
- ✓ *research grants:*
- ✓ *other (please explain):*

The FVM obtains considerable funds for research activity from the NSC, NRDC and EU as well as from clinical and diagnostic activity. The UWM indirect costs for sources obtained for research amount to 30%. In case of clinical activity, they amount to 15% and 10% for service (diagnostic) activities. Additionally, employees realize jobs deputed by economic subjects [in 2011 revenues from this jobs amounted to 372 949 PLN (€ 92 770)]. 75% of extra revenues obtained by the Faculty are the sources for research activity (grants) while the remaining 25% are from the clinical and diagnostic activity. Based on the Rector Ordinance number 46/2011 of 25 July, 2011 for every hour of work at the clinics ambulatories, over the didactic, organizational and research activities schedule, academic teachers should receive extra salary. Customarily the hourly rate is adequate to basic employees hourly rate, but on Sunday and holidays it's twice over. Faculty's clinical and diagnostic activity is not subsidized from any other sources. 50% of clinics income may be divided for employees honoraria. In case of mobile clinic, this indicator amounts to 50% and for polyclinic – 23% (distribution of larger amounts for employees salaries in this unit would cause the loss of financial liquidity).

*Please indicate whether students:*

- ✓ *Pay tuition/registration fees,*
- ✓ *How much these are,*
- ✓ *How they are decided,*
- ✓ *How the funds are distributed.*

Students of the full-time studies do not pay for tuition.

### 3.1.3 OVERVIEW INCOME (REVENUE) AND EXPENDITURE

Table 3.1: Income/Revenue.

Year	State (government)		Income generated by the Faculty		Total
	To university administered outside the Faculty	Directed to Faculty	Income from services provide	Research	
2011	9 491 900 PLN	2 399 800 PLN	2 250 600 PLN	4 398 900 PLN	18 541 200 PLN
2010	9 379 700 PLN	2 891 100 PLN	2 180 700 PLN	2 239 600 PLN	16 691 100 PLN
2009	9 867 900 PLN	2 263 800 PLN	2 183 400 PLN	2 278 500 PLN	16 593 600 PLN

National Currency – PLN; 1 € = 4.0196 PLN, exchangerate from January 2012.

Table 3.2: Expenditure.

Year	Pay	Non Pay				Total
	Salaries	Teaching support	Research support	Clinical support	Other	
2011	11 520 700 PLN	6 332 400 PLN	5 387 600 PLN	967 500 PLN		24 208 200 PLN
2010	11 307 500 PLN	4 236 000 PLN	3 779 100 PLN	802 800 PLN		20 125 400 PLN
2009	10 884 300 PLN	4 307 500 PLN	3 164 600 PLN	360 800 PLN		18 717 200 PLN

### 3.2 COMMENTS

*Teaching establishments never have enough finance. Please comment on any of the “Guidelines and Requirements” that are particularly difficult to fulfill in the present financial situation. Please make any comments that you feel would help the experts concerning the Faculty’s finances.*

*What is your number one priority for the use of any increased funding?*

*Comment on the degree of autonomy and flexibility available to the Faculty in financial matters.*

*Comment on the percentage of income from services that the Faculty is allowed to retain for its own use, and in particular on the extent to which loss of this income acts as a disincentive for the services concerned.*

*Please make any other general comments that you feel would help the experts concerning the Faculty's finances.*

The funds awarded to the Faculty by the MSHE based on the cost-consuming coefficient for didactic activity are not adequate to the real costs of education, which are significantly higher. These higher costs result from an extramural teaching at breeding farms, food animals, fur animals and poultry farms as well as at slaughter houses, food processing plants and practitioners. All this teaching is either at no extra cost or the Faculty covers only a small part of it. Directors and managers of the above mentioned institutions participate in this cooperation receiving in return advisory services, veterinary consultations and treatment, and other kinds of help free of charge. Practitioners are often our graduates supporting their bonds this way with the Faculty.

The funds presently obtained by the Faculty for research seem to be satisfactory. On the other hand, funds for salaries of highly qualified academic and support staff, and funds for teaching materials seem to be somewhat insufficient. The salaries of teachers, especially those involved in clinical study and training, are much lower than the salaries of private practitioners. That is the reason that teachers working in clinics often undertake private practice. The number of technical staff seems to be presently too low.

### **3.3 SUGGESTIONS**

*If you are not satisfied with the situation, please list any shortcomings and provide suggestions – in order of importance and describe any factors which are limiting the further development of your Faculty.*

The authorities of the Faculty accomplished the reorganization of the Clinical Departments in order to adjust to clients' needs and requirements of European veterinary medicine educational programs. The priority of the Faculty is further development of clinical and service activities, which will result in even better practical training of students. That is why the funds for salaries of highly qualified academic and support staff, and funds for teaching materials should be somewhat increased. In order to manage these suggestions, the Ministry should increase the cost-consuming coefficient from 3 to at least 5 which would directly increase the funds for education.

## Chapter 4

### CURRICULUM

*written by Prof. dr. hab. Jerzy Jaroszewski*

#### 4.1 FACTUAL INFORMATION

*Indicate whether there is a defined national curriculum and (if applicable) how and by what body decisions are taken on this.*

*Describe the degree of freedom that the Faculty has to change the curriculum.*

*Outline how decisions on curriculum matters and course content are taken within the Faculty.*

*Indicate the presence and disposition of an integrated curriculum. Describe the degree of integration present and the amount of time devoted for EU- and non-EU-listed subjects (Table 4.4)*

The higher education in Poland is regulated by the Higher Education Act of 27 July, 2005 and its amendment of 18 March 2011. According to this Act, Minister of Science and Higher Education approved standards and minimum requirements and general guidelines settled by particular universities and their faculties which have some autonomy with regard to certain number of hours as well as the content of subjects.

The Regulation of Minister of Science and Higher Education refers to educational standards for particular courses and levels of education and also conditions required so that a university can run inter and macro-disciplinary studies (with some changes since 16 October 2009). Attachments to the Regulation relate to particular university courses, and the Attachment 109 concerns veterinary studies.

The Attachment 109, which is a part of the law mentioned above, describes minimum requirements for veterinary education in Poland leading to the diploma of veterinary surgeon. This title and diploma are in accordance to Law – the Regulation of Minister of Science and Higher Education from 19 December 2008 concerning types of professional titles awarded to university graduates and types of diplomas, and certificates issued by the university.

The Attachment 109 contains the list of skills which a veterinary graduate should obtain during studies and this list is in accordance to EU directive 2005/36/EU. Studies should last at least 11 semesters, minimal number of hours should not be lower than 5100 and minimal ECTS points lower than 330. These hours are divided into some groups of subjects. The first group comprises basic subjects including: Biology, Cell Biology, Biochemistry, Biophysics, Chemistry, Histology and Embryology, Animal Anatomy, Topographic Anatomy, Animal Physiology, Microbiology, Immunology, General and Veterinary Genetics, Veterinary Epidemiology, Pathophysiology, Veterinary Pharmacology, Pharmacy, Toxicology, Environmental Protection, Biostatistics and Methods for Documentation, Forensic Medicine and they cover not less than 1185 hours and 87 ECTS. The second group of subjects comprises: Agronomy, Breeding and Rearing of Farm Animals, Technologies in Animal Production, Feed and Food Hygiene, Dietetics, Etiology and Welfare, Veterinary Prevention, Veterinary Economics, Imaging Diagnostics, Clinical and Laboratory Diagnostics, Pathomorphology, General Surgery and Anaesthesiology, Parasitology and Invasiology, Diseases of Dogs and Cats, Diseases of Horses, Diseases of Farm Animals, Andrology and Artificial Insemination, Diseases of Poultry, Fur Animal Diseases, Fish Diseases, Beneficial

Insect Diseases, and should cover at least 1785 hours and 130 ECTS. The Attachment 109 determines also obligatory extramural work, which is realized during summer vacations and includes Breeding practice (80 h), Clinical practice (320 h) and Veterinary inspection practice (160 h) and covers 15 ECTS. In fact this document defines the ratio between theoretical and practical training which only partly can be changed by the Faculty Council. Moreover, several hours should be devoted to humanistic subjects, foreign languages including Latin language, Work Safety and Ergonomics, Protection of Intellectual Property, physical education, Information Technology as well as 300 hours devoted to clinical training. The remaining 960 hours are at the disposal of faculties for their own decisions which are recommended by The Faculty Didactic Commission and confirmed by the FC.

The current curriculum leading to the award of the degree in the veterinary medicine at the UWM in Olsztyn is based on the Attachment 109 of the Higher Education Act and is in agreement with Directive 2005/36/EU).

The above mentioned regulations concern the new curriculum which has been realized since the academic year 2007/2008. The most important changes in the new curriculum as compared to the previous one are as follows:

- increase in the minimum teaching hours from 4980 to 5100,
- introduction of breeding practice after the second year,
- increase in the minimum intramural clinical training (clinical rotations) from 285 to 300 hours,
- implementation of species-oriented training in place of subject-oriented training,
- concentration of clinical rotations on the last two semesters,
- introduction of the final examinations in Farm Animal Diseases, Dog and Cat Diseases and Horse Diseases.

Generally, the curriculum covers all subjects required by 2005/36/EU and mentioned in Professional knowledge section such as: Practice management, Veterinary certification and report writing, Career planning and opportunities do not have adequate subjects in our curriculum but their contents are partly covered by other subjects and can be choose as electives.

*Outline how decisions are taken on the allocation of hours between the various subjects and on the balance between theoretical and practical teaching (Tables 4.1, 4.2 and 4.3).*

The DC is the Faculty advisory body responsible for the implantation of all changes in the curriculum. This commission works under the guidance of Vice-Dean for Study and Dean of the Faculty usually participates in the meetings. The allocation of hours between the various subjects and the balance between theoretical and practical teaching is proposed by academic teachers responsible for these subjects and thereafter discussed by the DC. The final version is presenting by the Vice-Dean for Study during the meeting of the FC for approval.

Each year to the end of April the FC has to approve curriculum for the incoming academic year which means that this matter is under careful consideration and eventual minor alterations can be made once per year. After this approval the documents are sent to Vice-Rector for Student Affairs for signature.

## **4.1.1 POWER OF SUBJECTS AND TYPES OF TRAINING**

### **4.1.1.1 POWER OF SUBJECT**

*Core subjects - taken by every student*

Administration and Veterinary Legislation  
Agronomy  
Andrology and Artificial Insemination  
Animal Anatomy  
Animal Breeding and Husbandry  
Animal Nutrition and Feedstuffs  
Animal Physiology  
Biochemistry  
Biology  
Biophysics  
Biostatistics and Methods of Documentation  
Cell Biology  
Chemistry  
Clinical and Laboratory Diagnostics  
Diagnostic Imaging  
Diseases of Beneficial Insects  
Diseases of Poultry  
Environmental Protection  
Feed Hygiene  
Ethology and Animal Welfare  
Fish Diseases  
Forensic Veterinary Medicine  
Fur Animal Diseases  
General and Veterinary Genetics  
General Surgery and Anesthesiology  
Histology and Embryology  
History of Veterinary and Deontology  
Hygiene of Animal Origin Products  
Hygiene of Slaughter Animals and Meat  
Immunology  
Infectious Diseases of Dogs and Cats  
Infectious Diseases of Farm Animals  
Infectious Diseases of Horses  
Information Technology  
Internal Diseases of Dogs and Cats  
Internal Diseases of Farm Animals  
Internal Diseases of Horses  
Microbiology  
Milk Hygiene

Parasitology and Invasiology  
 Pathomorphology  
 Pathophysiology  
 Pharmacy  
 Public Health Protection in the Situations of Hazard  
 Reproduction and Obstetrics of Dogs and Cats  
 Reproduction and Obstetrics of Farm Animals  
 Reproduction and Obstetrics of Horses  
 Surgery of Dogs and Cats  
 Surgery of Farm Animals  
 Surgery of Horses  
 Technologies in Animal Production  
 Topographical Anatomy  
 Veterinary Dietetics  
 Veterinary Economics  
 Veterinary Epidemiology  
 Veterinary Prevention  
 Veterinary Pharmacology  
 Veterinary Toxicology  
 Zoonoses

Moreover, according to the Attachment 109 and Regulation of the MSHE of 25 July, 2007 each student has to participate in the following courses: Latin language, modern language (English, German, French, Spanish or Russian), Physical Education, Ergonomics, Etiquette, Protection of Intellectual Property and Work Safety.

*Elective subjects - which each student must select from a list of permissible subjects*

The Faculty offers 42 subjects out of which students have to choose at least 6 subjects during semester 10 (2 subjects) and 11 (4 subjects). It gives at least 90 didactic hours and 9 ECTS. Free electives vary, with a view to enabling students to complete their studies in a chosen area of interest.

**The list of the elective subjects is as follows:**

Acquisition and Sanitary Estimation of Bee Products  
 Amphibian and Reptile Diseases  
 Approval of Food Industry Establishments  
 Biotechnics in Horse Reproduction  
 Bovine Reproduction  
 Breeding Invertebrate Diseases  
 Cardiology of Dogs and Cats  
 Clinical Pharmacology  
 Cytological and Histopathological Evaluation of Fluids and Animal Tissues

Dermatology of Dogs and Cats  
 Endocrinology of Dogs and Cats  
 Game Diseases  
 Gastroenterology of Dogs and Cats  
 Geriatrics of Dogs and Cats  
 Hygiene of Aquaculture Products  
 Infectious Diseases of Neonates and Young Animals  
 Laboratory Medicine  
 Molecular Diagnostics of Infectious Diseases  
 Newborn and Young Animal Diseases  
 Organization of Good Veterinary Practice  
 Ornamental Bird Diseases  
 Ornamental Fish Diseases  
 Parasitological Diagnostics in Breeding Animals  
 Preventing and Combating Invasive Diseases in Animals  
 Reproduction of Small Animals  
 Selected Issues of Dogs and Cats Nephrology and Urology  
 Selected Problems of Dogs and Cats Pulmonology  
 Sensory Analysis of Food  
 Small Ruminant Diseases  
 Social Behavior of Dogs and Cats  
 Systems of Food Quality Managements  
 The Use and Pathology of Laboratory Animals  
 Urology and Nephrology of Dogs and Cats  
 Veterinary Hematology  
 Veterinary Homeopathy and Pharmacognosy  
 Veterinary Inspection of Trade and Customs  
 Veterinary Neurology  
 Veterinary Practice Marketing and Management  
 Veterinary Surgeon in European Union and Other Countries  
 Veterinary Surgeon on Job Market  
 Veterinary Ultrasonography  
 Veterinary Vaccinology

Moreover, according to the Attachment 109 and the UWM Regulation of July 02, 2010 students have to realize some humanistic subjects. University regulations obligate students of the veterinary medicine for participating in three courses, each of them comprises 30 hours. The students can select three subjects from the following list: Aesthetics, Cultural Anthropology, Cultural Heritage, Economics, Ethics, History, History of Art, History of Poland, Law, Logic, Music Education, Knowledge and Culture, Philosophy, Philosophy of Culture, Philosophy of Nature, Psychology, Sociology, Study of Polish Language and Culture.

#### *Obligatory extramural work.*

Location in curriculum and range of hours for obligatory extramural work is defined in the Attachment 109. It covers 80 hours of Breeding practice after the 2nd year. Moreover, 80 hours of Veterinary inspection practice and 160 hours of Clinical practice after the 4th year as well as after the 5th year.

#### **4.1.1.2 TYPES OF TRAINING**

*There cannot be absolute distinction between the terms used to distinguish between different types of training. Overlap is inevitable. The following descriptions are derived from the definitions presented in the section 'Main Indicators' of Annex I.*

According to the Attachment 109, the Faculty provides training within two main groups: theoretical and practical. The National Curriculum determines the minimum number of hours ascribed to specific subjects. The person responsible for the subject specifies proposal of the distribution between theoretical and practical teaching. This proposal is discussed by the DC and finally the FC approves the distribution.

##### **4.1.1.2.1 Theoretical training**

*Lectures convey theoretical knowledge. Lectures are given to an entire or partial annual intake of students. Teaching may be with or without the use of teaching aids or of demonstration animals or specimens. The essential characteristic is that there is no active involvement of the students in the material discussed. They listen and do not handle.*

The exact number of hours in the curriculum is approved by the FC and cannot be lower than that specified by the National Curriculum. Some subjects are limited to lectures only but most of them are mixed (theoretical and practical); some are limited to practical training.

- *Seminars (sometimes called tutorials or supervised group work) are teaching sessions directed towards a smaller group of students during which they work on their own, or as a team, on part of the theory, prepared from manuscript notes, photocopied documents, articles and bibliographic references. Information is illustrated and knowledge extended by the presentation of audio-visual material, exercises, discussions and, if possible, case work.*

The number of hours is not specified and depends on the academic teacher's decision. On the beginning of each semester students are informed on how many seminars will be realized during the course. Therefore, every year some small changes in the total number of seminar hours are possible.

- *Self directed learning are sessions of individual students making use of defined teaching material provided by the Faculty (eg e-learning).*

At present, according to the Attachment, 109 self-directed learning is not included into the regular curriculum. It will be changed since the academic year 2012/2013 when the amendment of 18 March, 2011 to the Higher Education Act of 27 July, 2005 will be implemented.

During the course of many subjects (e.g. Animal Anatomy, Histology and Embryology, Parasitology and Invasiology, Clinical and Laboratory Diagnostics, Pathomorphology, Diagnostic Imaging etc.) students use teaching materials (e.g. anatomical, histological and parasitological preparations, radiograms, didactic animals) prepared by teachers to prepare themselves for tests and examinations. Moreover, during the course of many subjects students use manuscript notes, textbooks, photocopied documents, articles and lectures, and other supplemental materials. In February 2012, the VPWM was activated, which, in the nearest future, will be a source of specialized information for Faculty's students, and will be a very useful tool in the e-learning.

#### **4.1.1.2.2 Supervised practical training**

*Laboratory and desk based work. Includes teaching sessions where students themselves actively perform laboratory experiments, use microscopes for the examination of histological or pathological specimens. It also includes work on documents and idea-formulation without the handling of animals, organs, objects or products (e.g. essay work, clinical case studies, handling of herd-health monitoring programmes, risk-assessment computer-aided exercises).*

The Laboratory and desk based work is one of the most popular form of teaching at our Faculty. It is more related to basic subjects and basic sciences. This form of practical training involves student activity during classroom experiments (e.g. Chemistry, Biochemistry, Microbiology), sample examination (e.g. Histology and Embryology, Clinical and Laboratory Diagnostics, Pathomorphology) or computer-assisted exercises (e.g. Biostatistics and Documentation Methods, Veterinary Pharmacology, Epidemiology).

*Non-clinical animal work. These are teaching sessions where students themselves work on normal animals, on objects, products, carcasses etc. (e.g. animal husbandry, ante mortem and post mortem inspection, food hygiene, etc.) and perform dissection or necropsy.*

The non-clinical animal work is included into several subjects e.g. Animal Anatomy, Topographical Anatomy, Pathomorphology (necropsies), Hygiene of Slaughter Animals and Meat, Hygiene of Animal Origin Products.

*Clinical work. These are strictly hands-on procedures by students which include work on normal animals in a clinical environment, on organs and clinical subjects including individual patients and herds, making use of the relevant diagnostic data. Surgery or propaedeutical hands-on work on organ systems on cadavers to practice clinical techniques are also classified as clinical work.*

The Clinical work covers regular practical training within curriculum hours, clinical rotations, clinical practice and mobile clinic.

### **4.1.2 UNDERGRADUATE CURRICULUM FOLLOWED BY ALL STUDENTS**

#### **4.1.2.1 CURRICULUM HOURS**

*This section makes a distinction between curriculum hours to be taken by every student and those offered as electives, optional and obligatory intramural and extramural work (see paragraphs 4.2., 4.3, and 4.4)*

Table 4.1: General table of curriculum hours taken by all students.

Year	Theoretical training			Supervised practical training			Other	Total
	Lectures	Seminars	Self directed learning*	Laboratory and desk based work	Non-clinical animal work	Clinical training		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	
First	319	33	35	357	-	-	30	739 + 35
Second	398	48	-	234	48 80 <sup>1</sup>	-	150	958
Third	357	63	60	193	138	77	30	858 + 60
Fourth	396	61	20	177	93	211 <sup>2</sup> 160 <sup>4</sup>	32 80 <sup>3</sup>	1210 + 20
Fifth	310	56	21	142	64	127 <sup>2</sup> 165 <sup>5</sup> 160 <sup>4</sup>	36 80 <sup>3</sup> 30 <sup>6</sup>	1170 + 21
Sixth	-	-	-	-	-	135 <sup>5</sup>	60 <sup>6</sup>	195
Total	1780	261	136	1103	423	1035	528	<b>5130</b> + <b>136</b>

\*according to the national regulations, these hours are not included into the curriculum, therefore they are showed separately; <sup>1</sup>Breeding practice; <sup>2</sup>Clinical training within species-oriented teaching; <sup>3</sup>Veterinary inspection practice; <sup>4</sup>Clinical practice; <sup>5</sup>Clinical rotations; <sup>6</sup>electives (some electives are more theoretical and some of them are more practical, therefore, it is impossible to calculate exact type of training).

Table 4.2: Curriculum hours in EU-listed subjects taken by each student.

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures	Seminars	Self directed learning*	Laboratory and desk based work	Non-clinical animal work	Clinical training		
	A	B	C	D	E	F	G	
<b>1. Basic subjects</b>								
Biology	30	6	-	24	-	-	-	60
Biophysics	10	-	-	20	-	-	-	30
Chemistry	15	-	-	15	-	-	-	30
Cell Biology	15			15				30
Information Technology	5	-	-	25	-	-	-	30
<i>1-Total number of hours</i>	<b>75</b>	<b>6</b>	<b>-</b>	<b>99</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>180</b>
<b>2. Basic Sciences</b>								
Animal Anatomy	90	-	20	120	-	-	-	210 +20
Topographical Anatomy	15	-	-	-	30	-	-	45
Biochemistry	60	12	-	63	-	-	-	135
Histology and Embryology	35	6	15	64	-	-	-	105 + 15
Animal Physiology	60	27	-	48	-	-	-	135
General and Veterinary Genetics	30	-	-	30	-	-	-	60
Microbiology	60	-	-	75	-	-	-	135
Immunology	30	-	-	15	-	-	-	45

Pharmacy	9	2	-	14	-	-	-	25
Veterinary Pharmacology	60	24	6	36	-	-	-	120 + 6
Pathophysiology	60	6	-	3	36	-	-	105
Veterinary Toxicology	30	9	-	36	-	-	-	75
Veterinary Epidemiology	15	3	-	12	-	-	-	30
Biostatistics and Methods of Documentation	10	-	-	20	-	-	-	30
<i>2-Total number of hours</i>	<b>564</b>	<b>89</b>	<b>41</b>	<b>536</b>	<b>66</b>	<b>-</b>	<b>-</b>	<b>1255 + 41</b>
<b>3. Clinical Sciences</b>								
Clinical and Laboratory Diagnostics	45	-	14	10	-	65	-	120 +14
Parasitology and Invasiology	45	8	10	50	2	-	-	105 + 10
Diagnostic Imaging	18	5	12	24	4	2	-	53 + 12
Pathomorphology	75	-	18	44	76	-	-	195 + 18
Infectious Diseases of Farm Animals	36	9	-	15	6	15	9	90
Infectious Diseases of Horses	10	5	-	9	-	3	3	30
Infectious Diseases of Dogs and Cats	15	6	-	12	-	9	3	45
Internal Diseases of Farm Animals	40	10	6	6	8	26	-	90 + 6
Internal Diseases of Horses	20	6	5	3	6	25	-	60 + 5
Internal Diseases of Dogs and Cats	30	10	5	10	4	21	-	75 + 5
General Surgery and Anesthesiology	15	-	-	-	20	10	-	45
Surgery of Farm Animals	15	-	-	-	10	20	-	45
Surgery of Horses	20	1	-	-	17	22	-	60
Surgery of Dogs and Cats	25				9	26		80
Reproduction and Obstetrics of Farm Animals	50	-	6	8	12	45	-	115 + 6
Reproduction and Obstetrics of Horses	25	-	3	-	6	29	-	60 + 3
Reproduction and Obstetrics of Dogs and Cats	30	-	4	2	2	26	-	60 + 4
Diseases of Poultry	60	-	10	15	17	43	-	135+ 10
Andrology and Artificial Insemination	15	-	-	6	-	24	-	45
Fish Diseases	15	3	-	6	2	2	2	30
Fur Animals Diseases	15	3	-	6	2	2	2	30
Beneficial Insects Diseases	15	3	2	10	2	-	-	30 + 2
<i>3-Total number of hours</i>	<b>634</b>	<b>69</b>	<b>95</b>	<b>236</b>	<b>205</b>	<b>415</b>	<b>19</b>	<b>1578 + 95</b>
<b>4. Animal Production</b>								
Agronomy	15							15
Technologies in Animal Production	15	-	-	9	6	-	-	30
Ethology and Animal Welfare	30	-	-	-	-	-	-	30
Animal Breeding and	15	-	-	18	12	-	-	45

Husbandry								
Animal Nutrition and Feedstuffs	30	15	-	30	-	-	-	75
Feed Hygiene	30	14	-	10	-	-	6	60
Veterinary Dietetics	15	10	-	5	-	-	-	30
Veterinary Prevention	30	24	-	4	28	-	4	90
<i>4-Total number of hours</i>	<b>180</b>	<b>63</b>	<b>-</b>	<b>76</b>	<b>46</b>	<b>-</b>	<b>10</b>	<b>375</b>
<b>5. Food Hygiene/ Public Health</b>								
Hygiene of Slaughter Animals and Meat	45	-	-	45	20	-	10	120
Milk Hygiene	15	4	-	18	6	-	2	45
Hygiene of Animal Origin Products	45	-	-	63	-	-	27	135
Public Health Protection in the Situations of Hazard	15	15	-	-	-	-	-	30
Zoonoses	15	-	-	-	-	-	-	15
Environmental Protection	15	15	-	-	-	-	-	30
<i>5-Total number of hours</i>	<b>150</b>	<b>34</b>	<b>-</b>	<b>124</b>	<b>24</b>	<b>-</b>	<b>39</b>	<b>375</b>
<b>6. Professional Knowledge</b>								
Clinical rotation – Farm Animal Diseases						90		90
Clinical rotation – Horse Diseases						90		90
Clinical rotation – Dog and Cat Diseases						90		90
Clinical rotation – Diseases of Poultry						30		30
History of Veterinary and Deontology	15	-	-	-	-	-	-	15
Administration and Veterinary Legislation	30	-	-	15	-	-	-	45
Forensic Veterinary Medicine	15	-	-	15	-	-	-	30
Veterinary Economics	15	-	-	-	-	-	-	15
Latin Language	-	-	-	-	-	-	30	30
<i>6-Total number of hours</i>	<b>75</b>	<b>-</b>	<b>-</b>	<b>30</b>	<b>-</b>	<b>270</b>	<b>30</b>	<b>435</b>

\*According to the national regulations these hours are not included into the curriculum

Table 4.3: Curriculum hours in EU-listed subjects offered and to be taken as electives.

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subjected group
	Lectures	Seminars	Self directed learning	Laboratory and desk based work	Non-clinical animal work	Clinical training		
	A	B	C	D	E	F	G	
<b>Basic Sciences</b>								
Veterinary Homeopathy and Pharmacognosy	15	-	-	-	-	-	-	15
The Use and Pathology of Laboratory Animals	5	-	-	10	-	-	-	15
Veterinary Vaccinology	15	3	-	6	-	3	3	30
<b>Clinical Sciences</b>								
Acquisition and Sanitary Estimation of Bee Products	7	-	-	8	-	-	-	15

Amphibian and Reptile Diseases	5	5	-	5	-	-	-	15
Biotechnics in Horse Reproduction	5	-	-	-	-	10	-	15
Bovine Reproduction	-	7	-	-	-	8	-	15
Breeding Invertebrate Diseases	5	8	-	2	-	-	-	15
Cardiology of Dogs and Cats	6	-	-	1	-	8	-	15
Clinical Pharmacology	5	10	-	-	-	-	-	15
Cytological and Histopathological Evaluation of Fluids and Animal Tissues								
Dermatology of Dogs and Cats	7	-	-	3	-	5	-	15
Endocrinology of Dogs and Cats	5	-	-	2	1	7	-	15
Game Diseases	8	-	-	-	-	-	7	15
Gastroenterology of Dogs and Cats	7	-	-	2	-	8		15
Geriatrics of Dogs and Cats	7	-	-	2	-	6	-	15
Infectious Diseases of Neonates and Young Animals	5	2	-	4	-	2	2	15
Laboratory Medicine	3	-	-	12	-	-	-	15
Molecular Diagnostics of Infectious Diseases	10	2	-	18	-	-	-	30
Newborn and Young Animal Diseases	-	7	-	-	-	3	-	10
Ornamental Bird Diseases	5	-	2	1	2	7		15 +2
Ornamental Fish Diseases	5	8	-	2	-	-	-	15
Parasitological Diagnostics in Breeding Animals	7	-	-	8	-	-	-	15
Preventing and Combating Invasive Diseases in Animals	7	-	2	7	1			15 +2
Reproduction of Small Animals	6	-	-	-	-	9	-	15
Selected Issues of Dogs and Cats Nephrology and Urology								
Selected Problems of Dogs and Cats Pulmonology	7	-	-	-	-	8	-	15
Small Ruminant Diseases	4	-	-	2	1	8	-	15
Social Behavior of Dogs and Cats	8	-	-	-	-	7	-	15
Urology and Nephrology of Dogs and Cats	4	-	2	2	1	8	-	15
Veterinary hematology	7	-	2	6	1	1		15
Veterinary Neurology	6	-	-	-	-	9	-	15
Veterinary Ultrasonography	2	-	5	-	-	13	-	15
Ornamental bird diseases	5	-	2	1	2	7		15 +2
<b>Food Hygiene/ Public Health</b>								
Approval of Food Industry Establishments	5	2	-	4	2	-	2	15
Systems of Food Quality Managements	5	4	-	4	-	-	2	15
Hygiene of Aquaculture Products	-	7	-	6	2	-	-	15

Sensory Analysis of Food	-	3	-	12	-	-	-	15
<b>Professional Knowledge</b>								
Organization of Good Veterinary Practice	7	-	-	8	-	-	-	15
Veterinary Inspection of Trade and Customs	7	-	-	3	5	-	-	15
Veterinary Practice Marketing and Management	7	-	-	8	-	-	-	15
Veterinary Surgeon in European Union and Other Countries	7	-	-	8	-	-	-	15
Veterinary Surgeon on Work Market	8	2	-	5	-	-	-	15

Table. 4.3<sup>bis</sup>. Additional curriculum hours taken by each student according to the National/University requirements.

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures	Seminars	Self directed learning	Laboratory and desk based work	Non-clinical animal work	Clinical training		
	A	B	C	D	E	F	G	
<b>1. Basic subjects</b>								
Humanistic subjects	90	-	-	-	-	-	-	90
Modern language	-	-	-	-	-	-	120	120
Physical education	-	-	-	-	-	-	60	60
Ergonomics	2	-	-	-	-	-	-	2
Etiquette	4	-	-	-	-	-	-	4
Protection of intellectual property	2	-	-	-	-	-	-	2
Work safety	4	-	-	-	-	-	-	4
<i>1-Total number of hours</i>	<b>102</b>						<b>180</b>	<b>282</b>

For the exact yearly curriculum hours see **Annex I**

#### 4.1.3 FURTHER INFORMATION ON THE CURRICULUM

*Provide the visiting team with highlights and any unusual or innovative aspects of the teaching program, e.g. tracking and orientation programs.*

In the curriculum there is no defined “tracking” system. The innovative aspect of the teaching program is the presence of elective subjects which allow students to choose those subjects they are particularly interested in. It should give them a broader background in certain subjects and help to make future choices (such as specialization, for example).

*State the parts of the program that must be attended as obligatory by the students and how the attendance is verified.*

Seminars, laboratory and desk based work, non-clinical animal work and clinical work are obligatory for all students. Student’s attendance is checked at the beginning of each meeting. Students are required to attend at least 80% of these activities within each subject in order to be eligible to sit for any exam or pass. Participation in the clinical rotations is

obligatory and 100% participation is required; students keep their “Book of clinical rotations” indicating the type of activity and the signature of the supervisor of any particular activity.

Lectures are not obligatory but their attendance is advisable.

*Provide specific information on the practical clinical training; if clinical training is be provided through obligatory clinical rotations in different areas, please give an outline description of how this is structured, in terms of:*

- i. Are such rotations a structured part of the training given to all undergraduate students*
- ii. What is the total number of days or weeks of such rotation, and the year(s) in which they occur?*
- iii. What are the different areas covered and the time spent in each area? Whether attendance is full-time, for part of the day, and/or other (e.g. based on case needs)*
- iv. What are the group sizes in the clinical rotations*
- v. The activities and case responsibilities that students are expected to undertake*
- vi. Describe clinical exercises in which students are involved prior to the commencement of clinical rotations*
- vii. Outline the student involvement in the emergency and hospitalization activities of the clinics*
- viii. Specify student participation in the activities of the mobile clinic and indicate whether or not the hours spent in the mobile clinic are included in those in Table 4.1.11*

The practical intramural clinical training is provided through clinical rotations:

- they are a structured, obligatory part of the training given to all undergraduate student,
- total number of hours of clinical rotations is 300,
- they occur during semester 10 and 11 (year 5<sup>th</sup> and 6<sup>th</sup>).

Areas covered:

- Farm animal diseases - 90 h,
- Horse diseases - 90 h,
- Dog and cat diseases – 90 h,
- Poultry diseases - 30 h.

For realization of clinical rotations in the area of Farm animal diseases, Horse diseases and Dogs and cats diseases on the beginning of each semester students are divided into subgroups of 10 persons each. Every Monday morning (8:00 AM) one group is directed for intramural training into one of four Departments: Department of Internal Medicine with Clinic, Department of Surgery and Radiology with Clinic, Department of Animal Reproduction with Clinic and Department of Epizootiology, where they spend one week. In each department, coordinators responsible for realization of clinical rotations in each area divide students into small subgroups (2-4 students).

The practical training includes: clinical examination of animals, collecting biological material for laboratory testing, administering injections and intravenous infusions, autopsy examinations. Moreover, students learn how to use diagnostic equipment, endoscope, ultrasound apparatus, cardiograph, cardiomonitor, and how to operate the equipment for morphological and biochemical blood analyses. They nurse animals being treated and hospitalized and individually keep a training diary in which they describe each admitted animal, its diagnosis and undertaken procedures.

The time of realization and the activity of each student is documented in the “Book of clinical rotations” what is confirmed every time by a doctor participating in the clinical activity. In total, students have to participate in 135 hours (45 hours for each clinical rotation) of supervised practical training during every semester (10 and 11).

The separate documentation of the student’s activity together with the partial grades is kept in each department. At the end of semester a student get a final grade for the practical activity.

The clinical training in poultry diseases (30 hours) is realized during semester 10 under the control of academic teachers from the Department of Avian Diseases. Clinical training is realized in groups of 6-8 students in two stages. The first stage is realized in the Department and students have to make themselves the following activities: necropsy (health birds, embryos died at various times of incubation, deficient chicks and birds found dead due to illness), collect samples for diagnostic tests, perform ELISA test and interpret its results. The second stage is realized on the poultry farm and students perform interview and clinical examination, apply drugs and vaccines, and perform necropsy of dead birds.

#### **4.1.4 OBLIGATORY EXTRAMURAL WORK**

*These are training periods that are an integral part of the curriculum, but which are taken outside the Faculty. Please make a distinction in respect to the nature of the work, for instance work on farms, training in a veterinary practice or in Food Hygiene/Public Health with a commercial or government organization. Please indicate the guidelines pertaining to this activity, and the manner by which it is assessed.*

According to the Attachment 109, all students of veterinary medicine have to complete a total of 14 weeks of extramural work (see Table 4.4). This extramural work does not denote courses, but is destined to constructively complement professional training and serves the acquisition of skills as well as the preparation for future professional practice. Students complete their extramural work during holidays.

According to the UWM regulation of 07 September, 2009 each extramural practice is organized on the basis of specific arrangement between the University and a person representing the host institution (e.g. farm, veterinary clinic, veterinary inspection).

Students have to collect the documentation of practical training in special training “Book of practice”, which they obtain before the training. On the basis of this books and their knowledge students have to pass each summer practice in front of supervisor responsible for the practical training.

The supervisors responsible for practical trainings:

- Dr. hab. Mariusz Michalski – supervisor of the Breeding practice
- Dr. Marek Jałyński - supervisor of the Clinical practice,
- Dr. Małgorzata Gomółka-Pawlicka and Dr. Marta Pastuszczak-Frąk - supervisors of the Veterinary inspection practice.

Table 4.4: Obligatory extramural work that students must undertake as a part of their course.

Nature of work	Minimum period <sup>2)</sup>		Maximum period <sup>2)</sup>		Year in which <sup>1)</sup> work is carried out
	hours	% of total study time	hours	% of total study time	
Breeding practice	80	1.56	-	-	2
Clinical practice	160	3.12	-	-	4
Veterinary inspection practice	80	1.56	-	-	4
Clinical practice	160	3.12	-	-	5
Veterinary inspection practice	80	1.56	-	-	5

<sup>1)</sup>If these periods of extramural work take place during vacations, then the preceding academic year should be entered in the last column of Table 4.4

<sup>2)</sup>Where applicable

#### 4.1.5 SPECIFIC INFORMATION ON THE PRACTICAL TRAINING IN FOOD HYGIENE/PUBLIC HEALTH

*Describe arrangements for teaching in a slaughterhouse and/or in premises for the production, processing, distribution/sale or consumption of food of animal origin.*

*Indicate the distance to slaughterhouses where students undergo training, and the species covered. Outline the structure and the frequency of these visits (group size, number of trainers, duration, etc.).*

Students perform practical training in Food Hygiene/Public Health in slaughterhouses and food production plants which cooperate with the University of Warmia and Mazury. The slaughterhouses and plants are situated in the Province of Warmia and Mazury, within the distance of 7 to 71 km from the Faculty. These modern facilities, which meet all the requirements set before food producing companies in the EU include:

- Animex Group S.A., with the registered office in Morliny, Morliny 15, 14-100 Ostróda, is a modern company, situated 46 km from the Faculty. It has a slaughtering department as well as red meat (pork and beef) and white meat (turkey, chicken goose) processing departments. Meat products are sold on domestic and foreign markets. The plant has implemented the GMP/GHP and HACCP systems.
- Poultry Company Indykpol S.A., ul. Jesienna 3, 10-370 Olsztyn. The plant is situated 11 km from the Faculty; it specialises in breeding and industrial fattening of turkeys. It consists of a modern technological line in the section of slaughtering, cooling down and processing poultry meat. It has implemented the HACCP system at each stage of the production process, from the chick stage to the distribution network. It also has implemented specialist systems which guarantee safety and quality of products: BRC and IFS.
- Meat Company „Warmia”, ul. Olsztyńska 3, 11-300 Biskupiec, is a modern plant, situated at the distance of 45 km from the Faculty. It consists of the slaughtering department and meat processing department, producing different kinds of meat products. It has implemented the GMP/GHP and HACCP systems.

- Dairy Plant „Polmlek” Olsztyn sp. z o.o., ul. Poprzeczna 24, 10-339 Olsztyn is situated at the distance of 8 km from the Faculty; it produces UHT products, powdered products, butter, cheese spreads, quark, Dutch type cheese, Mozzarella cheese, Capressi melted cheese, etc. It has implemented the GMP/GHP and HACCP systems.
- Mlekovita Dairy Cooperative, Branch in Lubawa, ul. Wyzwolenia 3, 14-260 Lubawa, is a modern facility, situated 71 km from the Faculty; it produces UHT milk, yoghurt, kefir, buttermilk, butter, ice cream, Swiss and English type cheese, smoked cheese, quark, Mozzarella, powdered products, etc. It has implemented quality management systems GMP/GHP, HACCP, ISO 22 000. It has obtained permits for export to the EU and Russia.

Students arrive at the training in groups of 14-22 people with 2 academic teachers and – with participation of the official Veterinary Surgeon – follow the training plan, which lasts 2 or 3 hours.

Apart from the practical training, which take place during the academic year, students have a two-week (80 hours) vacation training in Veterinary Inspection at slaughterhouses and two-week (80 hours) vacation training in meat processing plants in Poland. All the plants have modern equipment and technological lines. During the contemporary training, students learn about practical aspects of Community and Polish legislation, applicable in Veterinary Inspection, which include animal welfare during their transport to a slaughterhouse, their unloading, keeping them at animal storage sites, during stunning and slaughter. Students participate in ante-mortem inspection of different slaughter animals, paying special attention to diseases combated *ex officio*. They participate in post-mortem inspection of carcasses and internal organs of slaughtered animals, they evaluate meat quality and its labelling with quality labels, used by the Veterinary Inspection.

They become acquainted with documentation which is associated with identification of different kinds of slaughter animals, transport, pre- and post-mortem inspection, which is carried out as part of the operation of the Veterinary Inspection. They also learn about practical aspects of the GMP/GHP and HACCP systems at a slaughterhouse and/or meat processing plant, and along the entire food chain.

#### **4.1.6 RATIOS**

*These must be delineated from Table 4.1*

*For explanation about ratios, see the section 'Main Indicators' of Annex I. The indicator derived from the ratios established is the denominator when the numerator is set 1.*

#### 4.1.6.1 GENERAL INDICATORS TYPES OF TRAINING

As indicated in tables 4.1, 4.2 and 4.3, the figures for the numerators and denominators are defined as follows:

Figure	Total number of teaching hours
A	Lectures
B	Seminars
C	Self directed learning
D	Laboratory and desk based work
E	Non-clinical animal work
F	Clinical work
G	Other

*Please give the following values:*

	Theoretical training				Denominator
<b>R6:</b>	$\frac{(A+B+C)}{\text{Supervised practical training (D+E+F)}}$	=	$\frac{2041}{2561}$	=	$\frac{1}{0.797}$ <b>1.25</b>
<b>R7:</b>	$\frac{\text{Clinical work (F)}}{\text{Laboratory and desk based work + non-clinical animal work (D + E)}}$	=	$\frac{1035}{1526}$	=	$\frac{1}{0.678}$ <b>1.47</b>
<b>R8:</b>	$\frac{\text{Self directed learning (C)}}{\text{Teaching load (A+B+C+D+E+F+G)}}$	=	$\frac{\quad}{\quad}$	=	$\frac{1}{\quad}$ <b>Denominator</b>

As it was explained above, according to the National regulations, self-directed learning is not included into the regular curriculum. However, this form takes place in many courses, therefore, the calculation with the self-directed learning (confirmed by the academic teachers responsible for the courses) is presented bellow.

	Theoretical training				Denominator
<b>R6:</b>	$\frac{(A+B+C)}{\text{Supervised practical training (D+E+F)}}$	=	$\frac{2177}{2561}$	=	$\frac{1}{0.850}$ <b>1.18</b>
	Clinical work				Denominator

<b>R7:</b>	$\frac{(F)}{\text{Laboratory and desk based work} + \text{non-clinical animal work (D + E)}} = \frac{1035}{1526} = \frac{1}{0.678}$	<b>1.47</b>
<b>R8:</b>	$\frac{\text{Self directed learning (C)}}{\text{Teaching load (A+B+C+D+E+F+G)}} = \frac{136}{5266} = \frac{1}{0.026}$	Denominator <b>38.46</b>

#### 4.1.6.2 SPECIAL INDICATORS OF TRAINING IN FOOD HYGIENE/PUBLIC HEALTH

<b>R6:</b>	$\frac{\text{Total No. curriculum hours Food Hygiene / Public Health}^2}{\text{Total No. hours vet. curriculum}^1} = \frac{535}{5100} = \frac{1}{0.105}$	<b>9,52</b>
<b>R7:</b>	$\frac{\text{Total No. curriculum hours Food Hygiene / Public Health}^2}{\text{Hours obligatory extramural work in Veterinary inspection}^3} = \frac{535}{160} = \frac{1}{3.343}$	<b>0.30</b>

1: Total as derived in Table 4.1

2: Total as derived in Table 4.1, Subject 5

3: Figures to be taken from Table 4.5

#### 4.2 COMMENTS

*Please comment on:*

*i. the way in which the veterinary curriculum prepares the graduate for the various parts of the veterinary profession, especially under the specific conditions prevailing in your country/region.*

The way in which the curriculum prepares the graduate for the various parts of the veterinary profession is in the assumption that by completing the curriculum described in the Attachment 109 the graduate should acquire “day one skills” necessary to perform all activities specific for the veterinary profession. Therefore, in the curriculum implemented in the academic year 2007/2008 we put great emphasis on the practical training during the last semesters of the study. However, this curriculum has been introduced in year 2007 and now it is carefully observed to see if the teaching results meet the expectations.

In Poland during the past decade the demand for official veterinary services increased due to the introduction of different programs aiming at prevention of infectious diseases,

enhancing food produce hygiene, supervising food processing and others. Therefore, during the study students are prepared for this activity.

*ii. the way the curriculum is structured and reviewed.*

The way the curriculum is structured and revised is that the curriculum is determined by the obligatory Attachment 109, therefore, the Faculty has a little influence on its structure. Because the new curriculum was implemented in the academic year 2007/2008 it has not been reviewed on a regular basis yet. However, if students and teachers reported some needs of small changes that improve the quality of education (e.g. the ratio of theoretical to practical training, sequence and duration) the FC accepted them.

*iii. the major developments in the curriculum, now and in the near future.*

The major developments in the new curriculum was, as mentioned earlier, introducing species-oriented teaching and grouping most of the in-the-clinic practical training during last two semesters. Any future developments will be possible after completing a full cycle of the new program (11 semesters of the new curriculum).

*iv. local conditions or circumstances that might influence the ratios in 4.6.1*

Privatization of state agricultural farms and structural changes in private agriculture have led to a decrease in the population of farm animals. Simultaneously, UE market demands and the necessity to comply Polish agriculture with EU legislation, for example, biosecurity standards, result in the limited access to farm animals, slaughter houses and meat and food processing industries.

## **4.3 SUGGESTIONS**

*If the denominators in 4.6.1 for your Faculty are not meeting the range as indicated in Annex I, Supplement A, what can be done to improve the ratios?*

To improve the ratio between clinical training and non-clinical animal work, more patients will be used in the didactic process of clinical subjects.

It seems necessary to develop a system of regular, continuous curriculum revision. The Faculty authorities' efforts should be focused on the cooperation in this matter with other Faculties of Veterinary Medicine and the National Veterinary Chamber, and exerting pressure on the legislative bodies to introduce necessary, if any, changes of the national curriculum.

## **Chapter 5**

### **TEACHING AND LEARNING: QUALITY AND EVALUATION**

*written by Prof. dr. hab. Jerzy Jaroszewski*

#### **5.1 FACTUAL INFORMATION**

##### **5.1.1 THE TEACHING PROGRAMME**

*Describe the measures taken to ensure co-ordination of teaching between different departments, sections, institutes and services.*

The coordination of teaching between different departments, sections and services is supervised by the DC. The commission consists of 10 members (representing important courses in major areas and one representative of students) and works under the guidance of Vice-Dean for Study. The commission analyzes in details factual contents of lectures and classes on all subjects to eliminate duplicate contents. Moreover, all comments on the teaching program from different years and, if necessary, commission proposals are discussed. The DC recommends desirable changes of the teaching process to the FC for acceptance.

*Describe the pedagogical approach of the institution. In particular, describe the use of newer approaches, such as problem-based learning, interactive computer-assisted learning, etc.*

To date the pedagogical policy is guided by the obligations resulting from the University and the Faculty mission, which explicitly says that the main task is to adopt a learning-oriented student-centered approach. An adequate preparation of graduates for fulfilling their occupational duties in accordance with the principle of omni-competence written in the EC Directive and the register of day one skills is the essence of teaching. The teaching staff is also trying, within its capabilities, to stimulate students to further broadening their knowledge on their own as a part of self-education. Both an open access to the internet in the Faculty buildings and the central library (see Chapter 8) are used for the purpose of encouraging students to expand their knowledge. The modern library is fully computerized which significantly shortens the time essential to search for literature positions. In order to facilitate the use of library resources, there are special library database courses organized for freshmen. The library also enables students to have full access to the library resources via an intranet. At present, the library has access to free of charge outside large-format bases of scientific journals, which after logging in can be used by both researchers and students. Moreover, the VPWM, activated in February 2012, will be a very useful tool in self-education. Using this portal students will have an access to e.g. histological and histopathological slides, anatomical preparations and many links, which they can use during the process of learning. The creation of the portal will contribute significantly to facilitation and modernization of the teaching process at the Faculty.

Innovative accents in the pedagogic policy are also visible in the methodology of conducting classes. Many theoretical, preclinical and clinical departments are trying to

popularize problem solving skills amongst students as attractive and modern method of knowledge acquisition. Both tendencies are corresponding fully with recommendations of the Bologna declaration.

The requirements in the day-one skills explicitly point to the increasing significance of practical teaching and its priority to the traditional form of spreading knowledge based on lectures, seminars and recitation classes. The current standard (implemented in 2007), intends to introduce species clinical teaching in place of clinical disciplines to date. To ensure a good quality of practical education in the field of farm animals the activity of the mobile clinic is still developed. Moreover, several arrangements between the FVM and owners of the farms for the student participation in the veterinary activity are signed.

*Indicate the extent to which course notes are used to supplement or substitute for the use of standard veterinary textbooks.*

At the beginning of each course, teachers indicate main textbooks which are recommended. Moreover, teachers prepare supplementary teaching materials for students in the form of summaries of chosen issues presented during lectures and classes. These notes are available in advance and can be printed by the students before they attend lectures or classes. Apart from them, students also use textbooks for classes which are available in the UWM library and rely on their hand-written notes.

*Describe (if applicable) any established or contractual arrangements that support undergraduate teaching between the Faculty and outside bodies, e.g. farms, breeding centres, practitioners, state veterinary services, factories/processing plants, outside laboratories, etc. Briefly describe how these arrangements work out in practice in terms of the contact this provides for all students or for selected students.*

The Faculty has signed numerous bilateral agreements with different subjects supporting undergraduate teaching (see Chapter 7.1.8.2).

*Describe the general learning objectives underlying the veterinary curriculum and how this is ensured.*

The learning objectives (see Annex II) are based on the EC Directive of 2005 concerning professional qualifications. These objectives are oriented to give the scientific basis and the theoretical-practical education for practicing of the veterinarian profession. To achieve this goal, the undergraduate students have to learn basic day-one veterinary skills, learn an approach method to solve a diagnostic problem, and learn basic research and laboratory methods of analysis and sampling. Learning objectives are achieved through theoretical lectures, laboratory work, practical demonstrations and intra- and extra-mural hands-on training. Education objectives within the individual subject are to meet the expected knowledge, skills and competences of graduates, and are described in syllabuses (<http://pl.wet.uwm.edu.pl/o-wydziale>). They give detailed goals, corresponding to the general or specific qualifications of graduates.

*Describe how the Faculty collects the data required to ensure students are equipped with these day-1 skills (evidence of learning).*

At the end of each course, grades of the exams (confirmed that students have achieved their learning objectives) are written to the index and achievement's card. In the academic year 2009/2010, the UWM implemented the electronic University System of Study Management (USSM) in which data related to students' learning are collected. At present, at the Faculty the system was implemented for the first four years of study and it will be totally implemented in academic year 2012/2013. Students' activity during the summer extramural and intramural clinical rotations are documented in the Book of practice and Book of clinical rotations, respectively, which are very important reference for learning objectives leading students to acquire day-one skills.

### **5.1.2 THE TEACHING ENVIRONMENT**

*Describe the available staff development facilities, particularly in relation to teaching skills.*

The appointment of permanent academic positions is generally possible after the candidate completes his/her Ph.D. studies. These studies include an obligatory course of teaching techniques.

The academic staff development is based on two main types of the activity: research and veterinary services. Well equipped laboratories of basic and preclinical sciences enable advanced research which supports actualization of knowledge, improves the quality of teaching and keeps contents of the curriculum up to date. Well equipped clinics and diagnostic laboratories, and large numbers of patients as well as internships allow teachers to gain a broad clinical experience.

*Describe the available systems for reward of teaching excellence (e.g., accelerated promotion, prizes, etc).*

At the UWM there is no regular system for reward of teaching excellence. Every year Faculty authorities suggest the Rector to reward outstanding teachers (2-3 persons selected on the basis of graduate students evaluation) with the annual Award for Outstanding Teaching Achievements. However, the annual Award is not granted every year. Perennial, excellent teachers may also be awarded with a special distinction – The Commission of National Education Medal, granted by the Ministry of Education. Applications for the medal are reviewed by the University Senate, and send by Rector to the MSHE. Especially valued award for teaching excellence is the title of “The Best University Teacher“, granted annually by the UWM students since the year 2004. The criteria for a plebiscite for the best teacher are determined by the student government. In the years 2010 and 2011, Dr. Wojciech Barański and Dr. Tomasz Maślanka, respectively, the teachers from our Faculty were awarded.

*Describe other measures taken to improve the quality of teaching and of learning opportunities.*

Two years ago the University and also Faculty Commissions for Education Quality have been established by the UWM Senate resolution of February 26, 2010. The main objective of these bodies is to pursue a policy of the quality at the University/Faculty, the priority of which is to educate students of all levels. The quality of education refers to such essentials as: constant improvement of qualifications, research and teaching, the implementation of investment projects, providing the highest possible level of education and services, and continuous improvement of the education quality in accordance with the development strategy of the University.

### **5.1.3 THE EXAMINATION SYSTEM**

*Describe the examination system of the Faculty:*

The DVM degree is achieved through the acquisition of at least 330 credits and passing of all subjects provided in the curriculum. Credits can only be earned by successful passing the final exam for each course.

*In particular, is there a central examination policy for the Faculty as a whole? If 'yes', by whom is it decided?*

The Study Regulation of the UWM (accepted by the UWM Senate Resolution of July 30, 2006 and its amendments of May 09, 2008 and January 30, 2009) determines only the number of exams (maximum four) and ECTS (minimum  $30 \pm 3$ ) in each semester. However, there is no “central examination policy” in relation to the form of exams (oral examination, written test, practical test etc.). In this view, the principle of autonomy is assigned to individual didactic units, and more specifically to those responsible for teaching subjects. With regard to the course completion (exam, with the degree of credit, credit without a degree), a preliminary decision is made by the Faculty Didactic Commission, and then it is approved by the Faculty Council. Information on how to complete the course is included in syllabuses of the subjects, available on website of the FVM (<http://pl.wet.uwm.edu.pl/o-wydziale>). Furthermore, this information is always given to the students at the start of each subject, and cannot be changed during the subject course.

For each exam a student has three approaches. If a student expresses objections to the fairness of the exam, he can apply for examination in front of the commission which includes the Vice-Dean for Study, examiner, second teacher of the subject, tutor of the year and representative of the student government.

*Are there special periods (without teaching) during the year for examinations?*

The detailed data on timing and duration of the winter, summer and retake sessions are included in the organization of the academic year - a document accepted by the UWM Senate

and issued by the Vice-Rector for Student Affairs, being in force for the entire University. This document is available on the UWM website.

The UWM has two designated time intervals, free from teaching, called the exam sessions. The winter session, ending the winter semester lasts three weeks. In the academic year 2011-2012, winter session with the first exam retake lasts from 30/01/2012 to 11.02.2012. The second retake period is from 13/2/2012 to 18/02/2012. For students of the sixth year, the session runs from 30/01/2012 to 15/04/2012. The summer session, ending the summer semester, begins on 18/06/2012 and ends on 30/06/2012, taking into account the first retake session. The second exam retake session lasts from 03.09.2012 to 15.09.2012.

*Is use made of external examiners?*

No external examiners are involved due to the UWM regulations.

*How many retakes of an examination are allowed?*

According to the UWM policy (Study Regulation of the UWM) during the first year students have to pass all compulsory subjects (Biology, Chemistry, Histology and Embryology, Animal Anatomy, Biochemistry); if they do not pass the exams, they are expelled from the Faculty.

Since the second year two retakes of an examination are allowed. Moreover, when the students were expelled (after two retakes), they can apply for re-admission within three years.

Students (including the first year) with health problems (confirmed by a medical certificate) can apply for an extra retake.

*Do students have to pass the examination within a certain time?*

Students are supposed to get successful subject credits during the examination or retake sessions. Under exceptional circumstances, justified by health or life problems, with the approval of the Vice-Dean for Study, the student may take the exam in the period extended beyond the examination session.

*Do students have to pass an examination before they can start other courses?*

For all the subjects included in the study course, there are preconditions for the student participation creating the whole sequencing subject system. As agreed by the FC, if students do not fulfill the initial conditions, i.e. they have not passed the specified subject sequence, they cannot continue the course. Prerequisites for individual courses are included in the subject syllabus.

Below, there is a list of subjects which must be passed by students before the entrance to the next semester:

- 1<sup>th</sup> semester (Animal Anatomy, Histology and Embryology, Biology, Chemistry)
- 2<sup>th</sup> semester (Animal Anatomy, Histology and Embryology, Biochemistry)
- 3<sup>th</sup> semester (Animal Physiology, Biochemistry, Microbiology)

- 4<sup>th</sup> semester (Animal Physiology, Microbiology)
- 5<sup>th</sup> semester (Pathophysiology, Veterinary Pharmacology, Parasitology and Invasiology, Pathomorphology, Clinical and Laboratory Diagnostics)
- 6<sup>th</sup> semester (Veterinary Pharmacology, Parasitology and Invasiology, Pathomorphology, Clinical and Laboratory Diagnostics)
- 7<sup>th</sup> semester (Internal Diseases of Farm Animals, Surgery of Farm Animals, Infectious Diseases of Farm Animals, Reproduction and Obstetrics of Farm Animals, Hygiene of Slaughter Animals and Meat, Veterinary Toxicology)
- 8<sup>th</sup> semester (Internal Diseases of Farm Animals, Surgery of Farm Animals, Infectious Diseases of Farm Animals, Reproduction and Obstetrics of Farm Animals, Internal Diseases of Horses, Surgery of Horses, Infectious Diseases of Horses, Reproduction and Obstetrics of Horses, Hygiene of Slaughter Animals and Meat, Clinical practice, Veterinary inspection practice)
- 9<sup>th</sup> semester (Internal Diseases of Dogs and Cats, Surgery of Dogs and Cats, Infectious Diseases of Dogs and Cats, Reproduction and Obstetrics of Dogs and Cats, Diseases of Poultry, Hygiene of Animal Origin Products)
- 10<sup>th</sup> semester (Diseases of Poultry, Veterinary Prevention, Hygiene of Animal Origin Products, Clinical rotation - Diseases of Poultry, Clinical rotation – Diseases of Farm Animals, Clinical rotation – Diseases of Horses, Clinical rotation – Diseases of Dogs and Cats, Clinical practice, Veterinary inspection practice)
- 11<sup>th</sup> semester (Clinical rotation - Diseases of Poultry, Clinical rotation – Diseases of Farm Animals, Clinical rotation – Diseases of Horses, Electives)

In case of subjects not listed above, students can get conditional pass of the session. A maximum of two subjects per session can be passed conditionally, and students have to pass them within the next academic year.

#### **5.1.4 EVALUATION OF TEACHING AND LEARNING**

*Describe the method(s) used to assess the quality of teaching and learning in the Faculty.*

*Indicate whether the evaluation is a Faculty procedure, or one set up by individual departments, by students or by individuals.*

According to the Higher Education Act and the University Statute, there are two levels of evaluation: the University level and the National level.

At the National level, the quality of teaching is assessed by the Polish Accreditation Committee, which is an independent institution, operating under a system of higher education in Poland for the improvement of the education quality. The primary objective of the Commission is to assist the Polish universities in building the educational standards for best practices as applicable in the European and global academic space. The PAC pursues its mission by making compulsory education quality assessments and formulating an opinion on applications for permission to offer university studies. The Commission's concern is that the evaluation under the applicable law, should leave the scope for initiatives promoting innovative teaching process and the high education quality. Evaluation of various study courses is made by the Commission every five years. Our Faculty was evaluated in 2008 and,

based on the self evaluation report and results of the visit of the Accreditation Team, has received accreditation.

At the University/Faculty level, teaching and research staff is evaluated by the Personnel Commission. All academic teachers are evaluated every three years on the basis of questionnaires in which information concerning their research activity, teaching activity (based on student's evaluation) and organizing activity is described. At the Faculty, the questionnaires are analyzed by the Personnel Commission (headed by the Dean) and the final opinion is sent to the University Personnel Commission. The Faculty authorities are evaluated directly by the University Personnel Commission. All academic staff is evaluated every three years. For some people who have a negative opinion, the assessment is repeated again after one year.

*Describe the role of students in the evaluation of teaching and teachers.*

The representatives of students are the member of all Commissions and the FC. Moreover, students play a crucial role in the evaluation of teaching and teachers by filling in the anonymous questionnaires. In the first questionnaire, for Personnel Commission, students evaluate the teacher and quality of lectures and classes given by him. The second obligatory questionnaire (which exists only at our Faculty) is filled in by graduate students. In this questionnaire, all subjects (e.g. specific aspects of the course), academic staff (e.g. teaching activities) and departments (e.g. teaching organization) are evaluated. The questionnaire comprises open questions (students explain positive and negative aspects of the teaching and give suggestions to improve teaching quality) and questions with grade scale from 1 to 5. When all questionnaires are completed, the ranking of the best and worse teaching subjects, teachers and Departments is prepared. All teachers involved in didactic process have free access to the results.

Moreover, according to the Disposition of the Minister of Science and Higher Education from July 12, 2007 concerning the education standard, the University has introduced the Education Quality Assurance and Improvement System (UWM Senate resolution from February 26, 2010). The important part of this system is evaluation of the education quality based on the questionnaire which is filled in electronically by graduate students directly after, and three years after graduation. The results have given information how graduates are prepared for the profession and how many of them work as veterinarians. However, the weakness of this questionnaire is that it is not obligatory because of Personal Data Protection Act from 29 August, 2007.

*Indicate the use of external evaluators.*

As described above, the external evaluation is performed by the PAC. The evaluation by PAC is mandatory and takes place every five years. The assessment is preceded by the preparation of a detailed self-evaluation report in accordance with the guidelines of PAC. The second stage of evaluation is a 2-day working visit of the Faculty by the Accreditation Commission (4 members). After the visit, the Accreditation Commission draws up a report for PAC. The PAC final decision with justifications is sent to the University and Faculty.

*Describe the follow-up given to the evaluation.*

During the last three years on the basis of the periodic evaluation system performed by the Personnel Commission two academic teachers were dismissed.

Faculty authorities attach a great importance to the questionnaires filled in by graduates students, therefore, every year during the meeting of the FC (in October) their results are discussed in details to improve the quality of education. Moreover, the Dean and Vice-Dean for Study organize meetings with poorly evaluated teachers and discuss how to improve the teaching process.

### **5.1.5 STUDENT'S WELFARE**

*Describe any measures taken to protect students from zoonoses (e.g. rabies) and physical hazards.*

At the beginning of the academic year, all freshly admitted students have to pass an obligatory medical examination at the Medical Center. Moreover, they are obliged to participate in the lectures on "Work safety", where physical hazards are discussed. The second obligatory medical examination (focused on the hazard of infectious diseases) have students of the third year, however, the FVM does not organize for students as well as academic staff mass prophylactic vaccination campaign against zoonoses. Upon request, an individual can be vaccinated against, for e.g. rabies. The prevention functions under the general rules of the health care system and health insurance. Individual prophylactic vaccinations are performed when paid. The Faculty has adopted a policy of instructing students during the first classes of each subject on the rules and safety regulations obligatory in a lab. Class teachers are required to familiarize students with the equipment for practical exercises, the principles of its using and any potential health risks. Students are also instructed on preventive measures and the ways of proceeding in cases of health or life risk. The students of the Faculty are covered by the group insurance against accidents, which includes their stay at the premises of the university, as well as during summer working practice, clinical rotations and projects outside the Faculty.

*Describe the facilities (not related to the teaching program) which the establishment provides for students.*

The FVM is localized inside the Campus Kortowo, therefore students can access dormitories, sporting facilities cultural organizations, health care facility and cafeterias (for more details see Chapter 0) and modern library (for more details see Chapter 8).

The UWM also provides various forms of social and financial support:

- social scholarships,
- special scholarships for disabled students,
- scholarships for outstanding scientific or sport achievements,
- financial support to cover costs of accommodation,
- financial support to cover costs of living,
- emergency financial aid,
- scholarships for outstanding scientific or sport achievements funded by the MSHE.

*Describe the guidance offered by the Faculty (or its parent institution) for students with problems (social problems, study problems) as well as for future career development or job selection.*

Students have the right to benefit from free healthcare based on their insurance. The Medical Center is located in the Campus Kortowo and provides medical services in major specialties. The UWM offers also psychological help for students with problems, and psychological and rehabilitation help for handicapped students. The use of hospital services is based on nationwide rules. Almost all facilities are handicapped-accessible.

The UWM Office of the Vocational Promotion of Students and Graduates is responsible for help students and graduates in finding interesting and rewarding job. Especially it is responsible for:

- advising on business,
- organizing meetings of students and employers,
- collecting information on job vacancies for graduates and their opportunities to do training for students.

## **5.2 COMMENTS**

*Please give general comments about the quality of the teaching program under the above headings.*

One of the main objectives of the Faculty authorities is to take good care of the quality of education, therefore, a great importance is attached to the students' evaluation. However, due to many regulations (e.g. lifetime positions for professors) it is not easy to make a pressure on senior academic staff. Moreover, the best way to improve the quality of education process is a financial incentive for the best teachers. However, such system does not exist at the UWM, and academic teachers are mainly evaluated on the basis of scientific progress.

The new curriculum was implemented in 2007, therefore, about the teaching quality we will be able to say more when the graduate students will start to work.

## **5.3 SUGGESTIONS**

To increase the pressure of academic staff period contracts will be a good opportunity. Moreover, a teaching excellence should be adequately rewarded.

## Chapter 6

### FACILITIES AND EQUIPMENT

*written by Prof. dr. hab. Bogdan Lewczuk*

#### 6.1 FACTUAL INFORMATION

Buildings of the UWM are situated mostly in Kortowo - the district located on the south-west side of the town of Olsztyn. Kortowo is generally considered as the most beautiful University Campus in Poland. It occupies an area of 161 hectares and is partially surrounded by forests and comprises 3 lakes. At the campus students are provided with everything they need for studying and for life: teaching buildings, library, sports halls and fields, recreation areas (including beach and small marina with the floating equipment), dormitories, shops, services and student clubs. The distance from the university campus to the old-town is about 4 km and to the city center is about 5 km. Bus lines connect Kortowo with other districts of the town.

The University Campus consists of three parts:

- Kortowo I - the old part with some historic buildings; here are situated: the rector office, buildings of eight faculties and dormitories;
- Kortowo II - the modern part with the library, the conference center and the premises of three faculties including the Faculty of Veterinary Medicine;
- Kortowo III – the part, where farms with teaching animals belonging to the Faculty of Animal Bioengineering and a building of the Faculty of Mathematics and Computer Science (the Regional Informatics Centre) are located.

Four faculties of the University are situated outside the Kortowo campus: the Faculty of Medicine, the Faculty of Social Sciences, the Faculty of Fine Arts and the Faculty of Theology.

The University is the owner of four educational-research farms located in the Warmińsko-Mazurskie Voivodship with the area of farmlands extending over 5 000 hectares.

##### 6.1.1 PREMISES IN GENERAL

*Please give a general description of the site(s) and buildings occupied by the Faculty and include a map.*

The FVM occupies two building complexes located at Oczapowskiego Str. 13 (**building No. 105**) and 14 (**building No. 106**) in the part of the campus called as Kortowo II. The total area of these objects covers 15 000 m<sup>2</sup>. The buildings are almost 30-years-old. The premises have been successively modernized since 2007, however, some parts of these buildings are still waiting for renovation.





## **Building 105 (Oczapowskiego Str 13)**

The building 105 comprises:

- Prof. H. Janowski's Lecture Hall,
- Prof. S. Tarczyński's Lecture Hall,
- Department of Animal Anatomy,
- Department of Histology and Embryology,
- Department of Clinical Physiology,
- Department of Pharmacology and Toxicology (the pharmacology group),
- Department of Pathophysiology, Forensic Veterinary Medicine and Administration,
- Department of Pathological Anatomy,
- Department of Microbiology and Immunology,
- Department of Epizootiology,
- Department of Avian Diseases,
- Department of Parasitology and Invasive Diseases,
- Department of Veterinary Prevention and Feed Hygiene.



**Building 105**



## **Department of Animal Anatomy**

The Department of Animal Anatomy occupies 18 office rooms including a secretariat and a social room, four laboratory rooms, one surgical operating room, one technical room for the preparation of anatomical preparations and one cold storage room for cadavers storage (total surface area is 925 m<sup>2</sup>). In addition, it possesses two dissection rooms for students (55.6 m<sup>2</sup> and 69.5 m<sup>2</sup>).

The Department has four laboratories:

### **1. Immunohistochemical laboratory**

Localization: building 105 J, room: 015.

Equipment: cryostat, incubator, refrigerator, centrifuge, fume cupboard, minor equipment necessary for immunocytochemical staining.

### **2. Confocal microscopy laboratory**

Localization: building 105 J, room: 115.

Equipment: confocal microscope Zeiss LSM-700, fluorescent microscopes Zeiss Axiophot.

### **3. Plastination laboratory**

Localization: building 105 J, room: 004.

Equipment: freezers, vacuum pumps, vacuum chambers, minor equipment necessary for plastination.

### **4. Genomics and transcriptomics laboratory**

Localization: building 105, rooms: 045-046.

Equipment: Typhoon™ 9410 Variable Mode Imager (GE Healthcare), 7500 Fast Real-time PCR system (Applied Biosystems), 2 PCR thermocyclers: Mastercycler Personal (Eppendorf) and TProfessional Basic Thermocycler (Biometra), PRISM 310 Genetic Analyzer System (Applied Biosystems), electrophoresis equipment, stereomicroscope SteREO Discovery V8 with fluorescent lamp and camera (Zeiss), FemtoJet express microinjector with InjectMan® NI 2 micromanipulator (Eppendorf), centrifuges, biosafety laminar hoods, water baths, incubators, autoclave, sterilizer, balances, refrigerators, freezers, minor equipment necessary for molecular biology techniques.

## **Department of Histology and Embryology**

The Department of Histology and Embryology has six office rooms including a secretariat (10–16 m<sup>2</sup>), ten laboratory rooms (10-20 m<sup>2</sup>) and one microscopy room for work with student groups (surface area: 80 m<sup>2</sup>). In addition, an animal room prepared to chronobiological studies (for pigs and small ruminants) and a small dissection room for research purposes are administered by the department.

Laboratory premises:

### **1. Morphological laboratory (with electron microscopy lab)**

Localization: building 105; rooms: 022, 029, 030.

Equipment: transmission electron microscope Tecnai 12 G2 Biotwin (FEI), motorized fluorescence microscope Zeiss Axioimager with Apotome, monochromatic and color cameras, scanner for histological slides Zeiss MiraxDesk, ultramicrotome Leica, tissue

processor Leica TP1020, embedding station Leica EG1050CH, microtome Microm HM340E, cryostat Microm HM560 Cry-Star, vibratome and minor equipment for preparation of tissues for light and electron microscopic studies.

2. Biochemical laboratory consisting of radiochemical laboratory and HPLC laboratory

Localization: building 105C; rooms: 9, 10, 13.

Equipment: scintillation counters Perkin-Elmer Tri-Carb 2810 TR and Beckman LS 6500, centrifuges Beckman J-6MC and Allegra 64R, vacuum concentrator Labconco, termomixer Eppendorf, sonicator Somic, ultrafreezer Heto-Holten, HPLC with fluorescence detector (Dionex), HPLC with Coularray detector (Dionex), multipurpose microplate reader Biotek Synergy Mx, water purification system Millipore Integral incubators, labware wash machine and ice forming machine.

3. Cell culture laboratory

Localization: building 105; room: 157.

Equipment: inverted microscope Zeiss Axiovert 200 with illumination system Lambda DG-4, top-table incubator and monochrome and color cameras, incubators Kendro BB6060 and Galaxy 48R (both with controlled levels of CO<sub>2</sub> and O<sub>2</sub>), biohazard laminar flow chamber, horizontal laminar flow chamber, system for superfusion culture and microbalance Mettler-Toledo MX5.

### **Department of Clinical Physiology**

The Department of Clinical Physiology occupies 6 office rooms (ca 15 m<sup>2</sup> each), five laboratory rooms (total surface area ca 85 m<sup>2</sup>), a surgical operation room (31 m<sup>2</sup>) and a frog storage room (a special cold chamber for maintenance of frogs in the hibernation state). It shares a laboratory room for students (60 m<sup>2</sup>) with the Department of Pharmacology and Toxicology.

The Department has two labs:

1. Immunohistochemical laboratory

Localization: building 105, rooms: 017, 018, 019.

Equipment: fluorescent microscope Olympus BX51, cryostat Microm HM 525, incubator, refrigerator, analytical balance Ohaus Adventurer Pro AV114, minor equipment necessary for immunocytochemical staining.

2. Proteomic laboratory:

Localization: building 105C, room: 01.

Equipment: electrophoresis equipment Invitrogen XCell *SureLock*, semi-dry blotting system Invitrogen iBlot, transilluminator Invitrogen Safe Imager 2.0 Blue-Light, staining automat Invitrogen BenchPro 4100, fluorescence meter Invitrogen Qubit 2.0, ultrafreezer Sanyo MDF-453 V, centrifuge Eppendorf Mini Spin Plus, homogenizer IKA T10, incubator Memmert INCO 2, laminar chamber ESCO.

### **Department of Pharmacology and Toxicology**

The Department of Pharmacology and Toxicology is located in the building 105A (the pharmacology group) and in the building 106 (the toxicology group). The pharmacology group occupies seven office rooms including a secretariat and a small seminar room (surface

area 9-24 m<sup>2</sup>) and four laboratory rooms. The toxicology group has two office rooms (18 and 20 m<sup>2</sup>) and four laboratory rooms. For teaching of pharmacy and pharmacology the department shares a laboratory room for students with the Department of Clinical Physiology. Veterinary and environmental toxicology laboratory (59 m<sup>2</sup>) is used for toxicology teaching.

The department has five laboratories:

1. Laboratory of smooth muscle contractility

Localization: building 105A, room: 3.

Equipment: Hugo Sachs Electronic apparatus for measurement of isometric contractions with software for data acquisition.

2. Chromatographic laboratory

Localization: building 105A, room: 4, 5.

Equipment: HPLC separation module Agilent 1100 Series with DAD detector, HPLC separation module Agilent 1100 Series with FLD detector, separation module Alliance Waters 2695 with Micromass Quatro Micro API detector, Turbo Vap LV, ultrasonic cleaning machine, centrifuge MPW 350-R, analytical balance RADWAG.

3. Biotechnology laboratory

Localization: building 105A, room: 6.

Equipment: laminar flow cabinets ESCO and KOJAIR, CO<sub>2</sub> Incubator SHEL LAB, CO<sub>2</sub>-Incubator Memmert, Orbital Incubator Stuart, microscope Olympus CKX41, microscope Olympus IX71, centrifuge Beckman-Coulter Allegra 64R, centrifuge Beckman-Coulter Allegra X-15R.

4. Veterinary and environmental toxicology laboratory

Localization: building 106, room: L-102A, B.

Equipment: ultrafreezer SANYO, centrifuge MPW, water bathe Memmert, incubator Memmert, spectrophotometers UV/VIS Marcel Media Bio Plus and UV/VIS Beckman DU 520, homogenizers IKA, laboratory and analytical balances.

5. Biochemical laboratory

Localization: building 106, room: L-56, L-57.

Equipment: spectrophotometers Ray Leigh UV 1800 and Marcel S330, laboratory balance, centrifuge MPW, evaporator IKA RV 05, freezer.

### **Department of Pathophysiology, Forensic Veterinary Medicine and Administration**

The Department of Pathophysiology, Forensic Veterinary Medicine and Administration is located in the building 105 (the pathophysiology group) and in the building 105E (the forensic veterinary medicine and administration group). Pathophysiology group occupies four office rooms (ca 16 m<sup>2</sup> each) and four laboratory rooms (total surface 192 m<sup>2</sup>). The Forensic veterinary medicine and administration group has four office rooms (from 6 to 15 m<sup>2</sup>), a social room and two laboratory rooms.

Laboratory facilities include:

1. Rodents vivarium – detailed description in section 6.1.2.

2. Biochemical laboratory

Localization: building 105, room: 031.

Equipment: centrifuge, spectrophotometer, ELISA reader, microplate shaker, pipettes.

3. Haematological laboratory

Localization: building 105, room: 114, 126.

Equipment: refrigerator, hematological analyzer, freezer, autoclave, water bath, general laboratory equipment.

4. Isotope laboratory class III

Localization: building 105, room: 124.

Equipment: centrifuges, analytical balances, pipettes, freezer, refrigerator, incubator, tube shakers, homogenizer.

5. Laboratory of forensic veterinary medicine and cell pathomorphology - diagnostic lab described in details in section 6.1.5.

### **Department of Pathological Anatomy**

The Department of Pathological Anatomy has 8 office rooms including a secretariat (9–20 m<sup>2</sup>) and 11 laboratory rooms (8–27 m<sup>2</sup>). The department possesses two laboratory rooms for a student work group: necropsy room and microscopy room.

Laboratory facilities:

1. Histopathology laboratory - diagnostic lab described in details in section 6.1.5.

2. Flow cytometry laboratory

Localization: building 105E, room: 113.

Equipment: flow cytometer Beckman, laboratory centrifuge, general laboratory equipment.

### **Department of Microbiology and Immunology**

The Department of Microbiology and Immunology occupies seven office rooms including a secretariat and four laboratory rooms. The Department has two premises for student work groups: a seminar room (50 m<sup>2</sup>) and a laboratory room (100 m<sup>2</sup>)

Laboratory facilities include:

1. Mycological laboratory – detailed description in section 6.1.5.

2. Bacteriological laboratory – detailed description in section 6.1.5.

3. Virological laboratory

Localization: building 105, room: 150.

Equipment: 2 refrigerators, 2 incubators CO<sub>2</sub>, biohazard safety cabinet class II, gas burners, reverse microscope Olympus IX71, centrifuge, water bath, minor equipment for virological studies.

4. Immunological laboratory

Localization: building 105, room: 147.

Equipment: refrigerator, incubator CO<sub>2</sub>, biohazard safety cabinet class II, gas burners, microcentrifuge, water bath, microplate reader with computer, minor equipment for immunological study.

## Department of Epizootiology

The Department of Epizootiology occupies nine office rooms including a secretariat and a social room (15–40 m<sup>2</sup>), and five laboratory rooms (15–36 m<sup>2</sup>). In addition, it has two special facilities used for research and education: Laboratory of Fish Diseases located in the basement of the building 105B and the Pavilion for Mammalian Infectious Diseases located on the ground floor of the building 105B (both described in details in section 6.1.2). Clinical premises include also Observation Block for Rabies-Suspected Animals (see section 6.1.2). The department possesses three laboratory/seminar rooms for student work groups.

Laboratory facilities include:

1. Molecular biology laboratory of mammalian diseases diagnostic - diagnostic lab described in details in section 6.1.5.
2. Serological laboratory of mammalian diseases diagnostic - diagnostic lab described in details in section 6.1.5.
3. Laboratory of carnivore diseases  
Localization: building 105, room: 27, 28.  
Equipment: laminar flow chamber ESCO Biotech, water bath, laboratory balances orbital shaker Stewart, sterilizer ovens autoclaves, centrifuges Eppendorf, incubators Memmert, water purification system Millipore, 6 freezers, 11 refrigerators, microwave oven, vortex IKA, thermomixer Eppendorf.
4. Bacteriological laboratory  
Localization: building 105B, room: 25, 26.  
Equipment: incubators, sterilization oven, autoclave, water purification system, laboratory labware washer, ultrafreezer, microscope.

## Department of Avian Diseases

The Department of Avian Diseases occupies 5 office rooms including a secretariat (surface area from 6 m<sup>2</sup> to 24 m<sup>2</sup>), a social room (about 12 m<sup>2</sup>) and five laboratory rooms. The Department has one lecture/seminar room (surface area 74.5 m<sup>2</sup>). Four premises for animals are under administration of the Department: Pavilion for Birds Experimental Infections, avian room in building 105C, pigeon loft and open-air hen house.

Laboratory and clinical facilities include:

1. Avian hematological and biochemical laboratory – diagnostic laboratory described in section 6.1.5.
2. Molecular biology laboratory of avian diseases– diagnostic laboratory described in section 6.1.5.
3. Serological laboratory of avian diseases diagnostic – diagnostic laboratory described in section 6.1.5.
4. Immunological and Flow Cytometry Laboratory  
Localization: building 105, rooms: 43, 45.  
Equipment: ultrafast digital cell-sorter BD FACSAria II, digital flow cytometer BD FACSCanto II, flow cytometer with image display ImageStream, laminar chamber, ELISPOT scanner Eliscan, incubator with controlled level of CO<sub>2</sub>, centrifuge with

cooling Beckman-Coulter Allegra X-15R, ultrafreezer, three fridges, automatic cell counter Vi – Cell XR, pH – meter, manual and automatic pipettes.

5. Patient receive hall and autopsy hall

Localization: building 105, rooms: 43, 45.

Equipment: five autopsy tables, ultrafreezer, three fridges, surgical instruments sterilizer, basic surgical instruments.

6. Pavilion for Birds Experimental Infections - described in section 6.1.2.

7. Animal room in building 105C - described in section 6.1.2.

8. Pigeon loft - described in section 6.1.2.

9. Open-air hen house - described in section 6.1.2.

### **Department of Parasitology and Invasive Diseases**

The Department of Parasitology and Invasive Diseases occupies six office rooms (about 16 m<sup>2</sup> each) and two laboratory rooms (46 m<sup>2</sup> and 16 m<sup>2</sup>). The Department has two premises for student work group: a seminar room (48 m<sup>2</sup>) and a laboratory room (64 m<sup>2</sup>).

Laboratory facilities include:

1. Parasitological laboratory – diagnostic lab described in details in section 6.1.5.

### **Department of Veterinary Prevention and Feed Hygiene**

The Department of Veterinary Prevention and Feed Hygiene has six office rooms (10–18 m<sup>2</sup>), three laboratory rooms (20–32 m<sup>2</sup>) and two premises for student work groups: a laboratory room (67 m<sup>2</sup>) and a computer room (67 m<sup>2</sup>).

Laboratories:

1. Feed toxicology laboratory

Localization: building 105, room: 31.

Equipment: two HPLC systems with UV, DAD, FLD and LC-MS detectors (HP. Waters), equipment for sample extraction and concentration.

2. Cell culture laboratory

Localization: building 105, room: 31.

Equipment: inverted microscope, laminar flow chamber, incubator.

### **Building 106 (Oczapowskiego Str. 14)**

The building 106 comprises:

- Dean's office and Faculty Council room,
- Professor K. Markiewicz's Lecture Hall,
- Department of Animal Reproduction with Clinic,
- Department of Surgery and Radiology with Clinic,
- Department of Internal Medicine with Clinic,
- Department of Clinical Diagnostics,
- Department of Veterinary Public Health,
- Department of Pharmacology and Toxicology (the toxicology group),
- Polyclinic for Small Animals and Mobile Clinic.





## **Building 106**

### **Department of Animal Reproduction with Clinic**

The Department of Animal Reproduction with Clinic occupies 13 office rooms including a secretariat and three laboratory rooms. The department has a laboratory room for student work groups. Premises for clinical work and hospitalization include: a consulting room for small animals, a USG-room, an operating room for small animals, 2 examination areas for horses, a room for semen collection from bulls. The department has 6 places for horses, 8 places for dogs and 6 places for cats.

#### **Laboratories:**

##### **1. Biochemical laboratory**

Localization: building 106P, P4.

Equipment: biochemical analyzer Biosystem A-25.

##### **2. Endocrinology laboratory – diagnostic laboratory described in details in section 6.1.5.**

##### **3. Cytological laboratory – diagnostic laboratory described in details in section 6.1.5.**

#### **Clinical service:**

##### **1. Clinic of Department of Animal Reproduction**

Localization: building 106P.

Equipment: ultrasound scanners: ESAOTE Sylab 30Vet GOLD, 100 Falco, HS-1500

Wolf vaginoscope for bitches, Olympus hysteroscope for bitches, surgical equipment.

## **Department of Internal Medicine with Clinic**

The Department of Internal Medicine with Clinic occupies 14 office rooms (each approximately 12 m<sup>2</sup>) including a secretariat, three laboratory rooms and two rooms for student work groups (with possibilities to use animals for practical education). Premises for clinical work and hospitalization include: 2 consulting rooms for small animals and 2 consulting rooms for large animals, 9 places for cattle, 2 places for horses, 12 places for small ruminants, 17 places for dogs and 7 places for cats.

### **Laboratories**

1. Biochemical laboratory – diagnostic laboratory described in details in section 6.1.5.
2. Haematological laboratory – diagnostic laboratory described in details in section 6.1.5.

### **Clinical service:**

#### **1. Clinic of Internal Medicine Department**

Localization: building 106W, rooms W21, W26.

Equipment: ultrasonographic scanner Hitachi EUB 525, ultrasonographic scanner Echoson, multipurpose electrodiagnostic examination device Viasys Nicolette Viking Quest, EEG examination device Viasys Nicolette Viking Quest, videotoscope Welch Allyn, colonoscope OLYMPUS, hipomed inhalator AIR-1, ultrashall inhalator, cystoscope STORZ 9,5/17/25, electrocardiography BTL, cardiomonitor Scheller.

## **Department of Surgery and Radiology with Clinic**

The Department of Surgery and Radiology with Clinic occupies 12 office rooms including a secretariat (mean area ca 14 m<sup>2</sup>) and one lecture room for work with a student group.

### **Premises for clinical work and hospitalization include:**

- three surgical rooms for small animals,
- pre- and postoperative rooms for small animals,
- surgical room for large ruminants and swine,
- surgical room for horses,
- anesthetic box for anesthesia and recovery of horses,
- ambulatory room for small animals,
- ophthalmological examination room,
- horse examination area,
- two rooms for aseptic preparation for surgery,
- sterilization room,
- hospitalization room for dogs,
- hospitalization room with boxes for swine,
- five hospitalization boxes for horses,
- drugs storage room for small animal,
- drugs storage room for large animal,
- food storage room for large animal,
- food storage room for small animal,

- RTG examination room,
- magnetic resonance imaging room.

Regular hospitalization capabilities:

- 5 boxes for horses,
- 6 boxes for pigs,
- 13 boxes for dogs.

Clinical services:

#### 1. Surgery clinic

Localization: building 106CH.

Equipment: five surgical rooms with supporting rooms as described above, three anesthesia machines for small animal, one anesthesia machine for horses, one respiratory machine for horses, two cardio-monitors with pulsoxymeters, two classical electrocoagulation sets and 1 with argon support, arthroscopy, laparoscopy, thoracoscopy, cystoscopy equipment (Strycker, Storz, Luth), ophthalmology equipment: tonometer TonoPen XL (Reichert, USA), double channel ERG/VEP (Acrivet, Germany), Surgical microscope (Shin-Nippon OP-2, Ohira Co., Ltd, Japan), portable digital slit lamp (Hawk Eye, Dioptrix, France).

2. RTG diagnostic service - described in details in section 6.1.5.

3. MRI diagnostic service - described in details in section 6.1.5.

### **Department of Clinical Diagnostics**

The Department of Clinical Diagnostics occupies six office rooms including a secretariat (area from 17.60 m<sup>2</sup> to 37.00 m<sup>2</sup>), one laboratory room (area 16 m<sup>2</sup>), one clinical room and one lecture/seminar room for students.

Laboratory and clinical facilities:

1. Haematological and biochemical laboratory - diagnostic lab described in detail in section 6.1.5.
2. Videoendoscopy diagnostic laboratory - described in details in section 6.1.5.
3. USG and ECG diagnostic laboratory - described in details in section 6.1.5.

### **Department of Veterinary Public Health**

The Department of Veterinary Public Health possesses ten office rooms including a secretariat (9.3–22.7 m<sup>2</sup>), a seminar room (23 m<sup>2</sup>), a social room (14 m<sup>2</sup>), eight laboratory rooms (20–36 m<sup>2</sup>) and a laboratory didactic hall (85.2 m<sup>2</sup>).

Laboratories:

#### 1. Regional laboratory of sensor food analysis

Localization: building 106L.

Equipment: 7 boxes for analysis with laptops, ANALSENS software for sensor laboratory support, computer server (FUJITSU SIEMENS), color laser printer KONICA MINOLTA, metal tables for food samples preparation, electric cooking oven with ventilation hood, refrigerator, dishwasher.

## 2. Food microbiology laboratory

Localization: building 106, rooms F-10, F-12.

Equipment: laminar flow chambers (2 units), refrigerator-deep freezer (2 units), refrigerators (3 units), gas burners, microbiological thermostats (4 units), microscopes, (5 units), stomacher (2 units), microwave oven, balances (2 units), pH meter, centrifuge, autoclave, laboratory dryers (2 units), ultrasonic washer.

## 3. Serology laboratory

Localization: building 106, room F-11.

Equipment: ELISA tests reader, manual ELISA plates washer, pH meter, refrigerator-deep freezer.

## 4. Molecular food testing laboratory

Localization: building 106, room 024.

Equipment: laminar flow chamber for PCR, refrigerator – deep freezer, freezer (2 units), gas burners (2 units), microbiological incubators (2 units), microbiological incubator with cooling (1 unit), water activity measuring device, pH meter, Eppendorf centrifuge, Eppendorf thermoblock (heating unit), thermal cycler (2 units), gel electrophoresis unit, gel documenting unit (trans-illuminator, digital camera, photographic darkroom, computer, printer).

## **Polyclinic**

The Polyclinic is localized in building 106L and has a separate entrance from a small parking area. There are:

- reception office,
- two waiting rooms,
- vaccination cabinet,
- two consulting rooms,
- USG room,
- RTG room,
- surgery room with pre- and postoperative rooms,
- laboratory,
- sterilization room,
- social room for staff,
- social room for students,
- drugs storage room,
- hospitalization room for dogs (15 places in cages),
- hospitalization room for cats (12 places in cages).

Clinical equipment: anesthesia machine Komesaroff (Medical Developments Australia), RTG AJEX 140 H (AJEX Medical tech., Ltd, Korea), film developer CURIX 60, USG Convex Scanner HS -1500 (Honda electronic), sterilization oven Memmert, packing machine Wipak Medical Steriking RS 120.

Laboratory equipment: biochemical analyzer Reflovet Plus, haematological analyzer Vet ABC, urine analyzer Clinitek Status, centrifuge MPW 223 W, equipment for blood smear staining (detection of *Babesia canis*), microscope Olympus.

### Mobile Clinic

Equipment: cars prepared for use by the mobile clinic: Volkswagen LT46 prepared for large animals transportation, Volkswagen T5, Opel Combo and Renault Kangoo.

### 6.1.2 PREMISES USED FOR CLINICS AND HOSPITALISATION

*The information to be entered in Table 6.1 is the number of animals that can be accommodated, not the number of animals used. Certain premises may be used to accommodate different species of animal. If so, the same premises should be entered only once.*

Table 6.1: Places available for hospitalisation and animals to be accommodated.

	Species	Number of places
Regular hospitalisation	cattle	9
	horses	13
	small ruminants	12
	pigs	15 - 42 <sup>1)</sup>
	dogs	53
	cats	25
	rabbits	12
	chicken	200 – 500 <sup>1,3)</sup>
	pigeons	120
	farm animals and horses	during preparation for 2 animals <sup>2)</sup>
Isolation facilities	small animals	11 (6 dogs and 5 cats)
	pigs	20 - 60 <sup>1)</sup>
	chicken	200 – 500 <sup>1,3)</sup>
	fishes	up to 640 kg

<sup>1)</sup> depending on size

<sup>2)</sup> the isolation premise for horses and cattle is under construction and should be ready in May 2012

<sup>3)</sup> detailed description below

### Non-isolation premises

#### Facilities for cattle

Boxes for regular cattle hospitalisation are located in the Clinic of Department of Internal Medicine in the building 106.

#### Facilities for horses

Boxes for regular horse hospitalisation are located in the Clinic of Department of Animal Reproduction, the Clinic of Department of Internal Medicine and the Clinic of Department of Surgery and Radiology in the building 106.

### **Facilities for small ruminants**

Boxes for regular small ruminants hospitalisation are located in the Clinic of Department of Internal Medicine in the building 106.

### **Facilities for pigs**

Premises for pigs include:

- regular boxes in the Clinic of Department of Surgery and Radiology in the building 106,
- boxes adopted for chronobiological studies in the building 105C,
- boxes with runs in the building 105G.

### **Facilities for dogs and cats**

Cages for hospitalization of dogs and cats are located in the Clinic of Department of Animal Reproduction, Clinic of Department of Internal Medicine, Clinic of Department of Surgery and Radiology and Polyclinic in the building 106. Animals in the Polyclinic are under 24 h observation.

### **Facilities for rabbits**

A room with cages for rabbits is located in building 105C. The animals are used in teaching and research.

### **Facilities for birds**

#### Avian section in building 105C

The premise consists of 3 boxes with the total surface amounting to 25.89 m<sup>2</sup> (8.78 m<sup>2</sup>, 8.78 m<sup>2</sup> and 8.33 m<sup>2</sup>, respectively), a corridor and a toilet.

It allows to accommodate alternatively: 517 broiler chickens (20 animals/m<sup>2</sup>), 155–207 hens (6-8/m<sup>2</sup>), 258 turkey poults (10/m<sup>2</sup>) or 103 adult turkeys (4/m<sup>2</sup>).

#### Pigeon loft

It allows to accommodate 120 pigeons.

#### Open – air hen house

It allows to accommodate 60 hens.

### **Isolation premises**

All isolation facilities are located in the complex of the buildings No. 105. The area, where these premises are located, is surrounded by a fence.

#### Isolation pavilion for horses and cattle

The contract with the company, which will prepare the project and construct the isolation pavilion for horses and cattle was signed in February 2012. Now, the project is ready and the construction works will start in March 2012. The building should be ready in May 2012. It will consist of two completely separated parts. Each part includes an animal box, a sanitary lock and a food store. The building will be connected to the chemical disinfection system of sewage and equipped with mechanical ventilation and electrical heating.

### Pavilion for Mammalian Infectious Diseases

The pavilion is localized in building 105B, which is connected with the main building through a sanitary lock. It contains the bacteriological laboratory, the serological laboratory, a room for student group work, a social room, a consulting room for small animals (with the separate entrance from outside) and an animal part. The consulting room for small animals is equipped with an examination table, a small surgery lamp, UV lamps, five cages for small animals, an injection cage and an oxide therapy box. The animal part is separated from the other parts of the pavilion by the air-proof doors. It consists of three small isolation rooms for pigs, a large isolation rooms with three pigpens, a corridor with an entrance from outside and a store room. Each animal room is equipped with HEPA filtration systems for supply and exhaust air. The pavilion is divided into zones with a gradient of negative air pressure in relation to the outside and the main building. The ventilation system is connected to an electric generator to ensure undisturbed negative pressure gradient. The pavilion has a separated system of sewage disposal. The security is provided by an electronic system. Cameras enable observation of animals via internet.

### Observation Block for Rabies-Suspected Animals

The observation block for rabies-suspected animals is located in the building 105G. It is used for observation of dogs, cats, raccoon dogs, foxes and other free-living small animals suspected to be infected with rabies virus. It contains five special cages with runs for dogs, a room with five cages for cats, a room with cages for observation of other mammals and a necropsy room. The runs for dogs are roof-covered and secured by two fences. The security is provided by an electronic system. Cameras enable observation of animals via internet.

### Pavilion for Birds Experimental Infections

A separate building equipped with HEPA filtration systems for supply and exhaust air, chemical disinfection system of sewage and an electric generator. The building consists of eight completely isolated boxes for birds (ca 7.5 m<sup>2</sup> each), sanitary locks, “clean” and “dirty” corridors, and a laboratory room equipped with biohazard laminar flow cabinet and autoclave. It is divided into three zones with a gradient of negative air pressure in relation to the outside. The pavilion allows to accommodate alternatively: 1172 broiler chickens (20 animals/m<sup>2</sup>), 586 turkey poults (10/m<sup>2</sup>), 234 adult turkeys (4/m<sup>2</sup>) or 351 – 469 hens (6-8/m<sup>2</sup>).

### Laboratory of Fish Diseases

The laboratory is localized in the basement of the building 105B. It is connected with the main building with a sanitary lock and consists of a laboratory room, a fish husbandry room with 32 tanks for fishes and a water disinfection room. The tanks are organized into the following systems: the closed circulation system with a biological filter (12 tanks 100 liters each, up to 240 kg of fishes) and the semi-open system (10 tanks 200 liters each, up to 400 kg of fishes). Water disinfection is performed with UV lamps.

### Rodents Vivarium

The rodents vivarium is localized in the building 105G. It consists of 1) a room for breeding of specific pathogens free animals (SPF), 2) a laboratory room for work with SPF animals, 3) a room for normal rat breeding, 3) a room for normal mice breeding, 4) a washing room (equipped with cage washer, cage autoclave, dump station, racks and stainless table), 5) an ozone chamber, 6) stores rooms, 7) a changing room for stuff (with shower, toilets), 8) a social room and 9) behavioral investigations room. The room for SPF animals is equipped with cages change station, rack with individually ventilated cages and “Uni Protect” air flow cabinet. Ventilation system ensures HEPA filtration of the intake air and a gradient of positive pressures in relation to the outside. The highest pressure is kept in SPF section. The security is provided by an electronic system.

### **6.1.3 PREMISES FOR ANIMALS**

*Give a description of the facilities for rearing and maintaining normal animals for teaching purposes.*

Animal used for teaching are maintained mainly at the Department of Internal Medicine with Clinic in the building 106. During a course of Animal Breeding and Husbandry students visit various farms, belonging to both the University (located close to the FVM in Kortowo III as well as in the village of Bałdy - 25 km from Olsztyn, and the village of Bałcyny – 55 km from Olsztyn) and to private farmers. Moreover, students have obligatory holiday practice training on a farm after the 2nd year of studies.

### **6.1.4 PREMISES USED FOR THEORETICAL, PRACTICAL AND SUPERVISED TEACHING**

*The same room should not be entered under two or more headings, even if it is used, for example, for both practical and supervised work.*

Table 6.2: Premises for clinical work and student training.

Small animals	No. consulting rooms	<b>10</b>
	No. surgical suites	<b>5</b>
Equine and food animals	No. examination areas	<b>6</b>
	No. surgical suites	<b>2</b>
Other <sup>1)</sup>	-	-

<sup>1)</sup> please specify

### **Department of Animal Reproduction with Clinic:**

- one consulting room for small animals,
- one USG-room,
- one operating room for small animals,
- two examination areas for horses,
- one examination area for cattle.

**Department of Internal Medicine with Clinic:**

- two consulting rooms for small animals,
- two consulting rooms for large animals.

**Department of Surgery and Radiology with Clinic:**

- three surgical rooms for small animals,
- one surgical room for large ruminants and swine,
- one surgical room for horses,
- one ambulatory room for small animals,
- one ophthalmological examination room,
- one horse examination area,
- one RTG examination room\*,
- one MRI room\*.

**Polyclinic:**

- one vaccination cabinet,
- two consulting rooms,
- one USG room,
- one RTG room\*,
- one surgery room.

**Department of Clinical Diagnostics**

- one consulting room.

\* - not included in table 6.2

Premises for clinical work were described in detail in the section 6.1.1.

Table 6.3: Premises for lecturing.

Number of places per lecture hall			
Hall	No. 1	No. 2	No. 3
Name	Prof. H. Janowski's Lecture hall	Prof. K. Markiewicz's Lecture hall	Prof. S. Tarczyński's Lecture hall
Places	204	187 + 17* = 204	120
Total number of places in lecture halls: 511 + 17* = 528			

\* - additional row of desks could be added on demand

The lecture halls numbered in the table as 1, 2, 3 are equipped in:

- good quality multimedia projectors (double in hall No.1 and 2, single in hall No. 3),
- computers,
- DVD players,
- connections to own computer of lecturer,
- sound systems,

- interactive tables,
- electric shutter systems on windows.

A small number of lectures (usually performed by persons from outside the Veterinary Medicine Faculty) are organized in lecture halls of other faculties. Faculty has an access to large lecture halls, like the Prof. M. Gotowiec's Lecture Hall in the building 37 (270 places) or the Conference Hall (597 places) at the Conference Centre.

Table 6.4: Premises for group work (number of rooms that can be used for supervised group work)

Room	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
Places	30	30	24	30	26	20	26	20
Type	Lab	Lab	Lab	Lab	Lab	Sem	Lab	Sem
Room	No. 9	No. 10	No. 11	No. 12	No. 13	No. 14	No. 15	No. 16
Places	42	25	24	24	24	24	24	70
Type	Sem	Lab	Lab	Lab	Lab	Lab	Lab	Lab
Room	No. 17	No. 18	No. 19	No. 20	No. 21	No. 22	No. 23	
Places	24	20	24	24	24	24	24	
Type	Lab	Lab	Clinic	Clinic	Sem	Sem	Lab	
Total number of places in rooms for group work: 627								

Lab – Laboratory room; Sem – Seminar room; Clinic – Room prepared to work with animals

### **No. 1 - Dissecting room**

- Localization: Department of Anatomy, building 105 J, room 9.
- Equipment: autopsy tables, shadowless lamps, sinks, overhead projector, LCD projector, anatomical diagrams and tables, skeletons of animals, exhibition cabinets with anatomical preparations (including plastinates).
- Safety: Students are required to use medical gowns and protective gloves during classes and self-studying.

### **No. 2 - Dissecting room**

- Localization: Department of Anatomy, building 105 J, room 16.
- Equipment: autopsy tables, shadowless lamps, sinks, overhead projector, multimedia projector, anatomical diagrams and tables, skeletons of animals, exhibition cabinets with anatomical preparations (including plastinates).
- Safety: Students are required to use medical gowns and protective gloves during classes and self-studying.

### **No 3 - Physiological laboratory**

- Localization: Department of Clinical Physiology, building 105, room 1.
- Equipment: 13 computers, 12 optic microscopes, 6 kymographs with stimulators, 2 electrocardiographs, 2 spirometers, 1 centrifuge, 1 water bath, 1 multimedia projector, 2 spectrophotometers, 4 automatic pipettes.
- Safety: Students are required to use medical gowns and wash hands after work.

**No. 4 - Microscopic room**

- Localization: Department of Histology and Embryology, building 105, room 103.
- Equipment: 30 optic microscopes Axiostar (Zeiss), 1 optic microscope Axiostar (Zeiss) with digital camera (Motic), 15 student computers, 1 computer for teacher, 1 computer – server, 1 network disk, multimedia projector connected to all computers, 2 computer networks (100 MB for internet and 1GB for intranet), software for viewing of digital slides, microscopic slides.
- Safety: No special requirements.

**No. 5 - Parasitology laboratory**

- Localization: Department of Parasitology and Invasive Diseases, building 105, room 119.
- Equipment: 15 microscopes, microscope and stereoscopes connected to TV-camera, microscopic slides, exposition of parasites fixed in formalin, 22 own films on DVD, DVD player, VHS-DVD converter, TV monitors 46' and 26', sound system, trichinoscope, multimedia projector and computer.
- Safety: Students are required to use medical gowns and wash hands after work.

**No. 6 - Seminar room**

- Localization: Department of Parasitology and Invasive Diseases, building 105, room 120.
- Equipment: multimedia projector and computer, DVD player, TV-monitor.
- Safety: No special requirements.

**No 7 - Microbiology laboratory**

- Localization: Department of Microbiology and Immunology, building 105, room 160.
- Equipment: multimedia projector, computer, 5 microscopy, biohazard safety cabinet class II, equipment for bacteriological and mycological studies, centrifuge, gas burners.
- Safety: Students are required to use medical gowns and wash hands after work.

**No. 8 - Seminar room**

- Localization: Department of Microbiology and Immunology, building 105, room 142.
- Equipment: multimedia projector, computer.
- Safety: No special requirements.

**No. 9 - Seminar room**

- Localization: Department of Avian Diseases, building 105, room 18.
- Equipment: multimedia projector, computer, multimedia board.
- Safety: No special requirements.

**No. 10 - Necropsy room**

- Localization: building 105, room: 5.
- Equipment: five autopsy tables, surgical instruments sterilizer, basic surgical instruments.

- Safety: Students are required to use medical gowns and protective gloves.

**No. 11 - Laboratory room**

- Localization: Department of Epizootiology, building 105, room 24.
- Equipment: multimedia projector, computer.
- Safety: Students are required to use medical gowns and wash hands after work.

**No. 12 - Laboratory room**

- Localization: Department of Epizootiology, building 105B, room 5.
- Equipment: 8 laboratory tables, autopsy table, 5 shadowless lamps, UV lamp, multimedia projector, computer.
- Safety: Students are required to use medical gowns and wash hands after work.

**No. 13 - Computer room**

- Localization: Department of Veterinary Prevention and Feed Hygiene, building 105, room 5.
- Equipment: 24 personal computers, laptop, multimedia projector, printer.
- Safety: No special requirements.

**No. 14 - Laboratory room**

- Localization: Department of Veterinary Prevention and Feed Hygiene, building 105, room 3.
- Equipment: Foss set for nutrition analyzes: Kiejltek, Fibertec, Soxhlet; incubator, muffle furnace, near infrared analyzer.
- Safety: Students are required to use medical gowns and additionally, during work with corrosive chemicals, protective gloves.

**No. 15 - Laboratory room**

- Localization: Department of Pathophysiology, Forensic Veterinary Medicine and Administration, building 105, room 32.
- Equipment: 8 laboratory tables, microscopes, magnifying glasses, equipment for rats immobilization, multimedia projector, computer.
- Safety: Students are required to use medical gowns and wash hands after work.

**No. 16 - Necropsy room**

- Localization: Department of Pathological Anatomy, building 105D, room 37.
- Equipment: 3 necropsy tables and lamps.
- Safety: Students are required to use medical gowns and protective gloves. Persons performing autopsy have to use special aprons (and in some cases face-protection devices).

**No. 17 - Microscopy room**

- Localization: Department of Pathological Anatomy, building 105E, room 102.
- Equipment: 12 computers, 24 microscopes, multimedia projector, LCD TV, software for presentation of digital slides, collection of slides.

- Safety: Students are required to use medical gowns.

#### **No. 18 - Laboratory room**

- Localization: Department of Animal Reproduction with Clinic, building 106, room P4.
- Equipment: laboratory tables, microscopes, multimedia projector, computer.
- Safety: Students are required to use medical gowns and wash hands after work.

#### **No. 19 - Clinical room**

- Localization: Department of Internal Medicine with Clinic, building 106, room W24.
- Equipment: laboratory tables, multimedia projector, computer.
- Safety: Students are required to use medical gowns and wash hands after work.

#### **No. 20 - Clinical room**

- Localization: Department of Internal Medicine with Clinic, building 106W.
- Equipment: multimedia projector, computer.
- Safety: Students are required to use medical gowns and wash hands after work.

#### **No. 21 - Seminar room**

- Localization: Department of Surgery and Radiology with Clinic, building 106, room 14.
- Equipment: multimedia projector, computer.
- Safety: Students are required to use medical gowns.

#### **No. 22 - Seminar room**

- Localization: Department of Clinical Diagnostics, building 106, room 1.
- Equipment: multimedia projector, computer, electric shutters.
- Safety: Students are required to use medical gowns.

#### **No. 23 - Laboratory room**

- Localization: Department of Veterinary Protection of Public Health, building 106L.
- Equipment: laboratory tables, fume hood, stone sink, burners, computer, multimedia projector, TV, video, sound system.
- Safety: Students are required to use medical gowns and wash hands after work.

Table 6.5: Premises for practical work (number of laboratories for practical work by students).

Laboratory	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
Places	5	8	8	6	8	6	3	5
Total number of places in laboratories: 49								

#### **No. 1 - Study room for students**

- Localization – Department of Anatomy, building number 105 J, room 003.
- Equipment – stone tables, sink.
- Safety: Students are required to use medical gowns and protective gloves.

**No. 2 - Small necropsy room**

- Localization – Department of Pathological Anatomy, building number 105D, room 37.
- Equipment – necropsy table, fridges, necropsy equipment.
- Safety: Students are required to use medical gowns and protective gloves.

**No. 3 - Laboratory room**

- Localization – Department of Epizootiology, building number 105, room 28.
- Equipment – laboratory tables, ventilating hood, laminar flow chamber (ESCO Biotech), water bath, laboratory balances, orbital shaker, fridges.
- Safety: Students are required to use medical gowns.

**No. 4 - Parasitology Laboratory**

- Localization – Department of Parasitology and Invasive Diseases, building number 105, room 122.
- Equipment – laminar flow chamber, refrigerated centrifuge, thermomixer, microscopes and stereomicroscopes, refrigerators, freezers, incubator, centrifuge, autoclave.
- Safety: Students are required to use medical gowns.

**No. 5 - Electron Microscopy Laboratory**

- Localization – Department of Histology and Embryology, building number 105, room 029.
- Equipment – electron microscope.
- Safety: Students are required to use medical gowns.

**No. 6 - Biochemical and Haematological Laboratory**

- Localization: building 106D, room 5.
- Equipment: haematological analyzer IDEXX LaserCyte, blood biochemical analyzer IDEXX VET TEST 8008, electrolyte and blood gas analyzer IDEXX Vetstat, coagulometer IDEXX Coag DX, urine analyzer IDEXX Vetlab.
- Safety: Students are required to use medical gowns.

**No. 7 - Laboratory at Polyclinic**

- Localization: building 106L.
- Equipment: biochemical analyzer Reflovet Plus, haematological analyzer Vet ABC, urine analyzer Clinitek Status, centrifuge MPW 223 W, equipment for blood smear staining (detection of *Babesia canis*), microscope Olympus.
- Safety: Students are required to use medical gowns.

**No. 8 - Computer room**

- Localization: building 105, hall.
- Equipment: five computers with Microsoft Office installed and an access to the university network (and in this way to the data bases and literature in the University Library).

*Please give a brief description of health and safety measures in place in the premises for practical work and in the laboratories to which undergraduate students have access.*

## **Health and safety measures in the premises used for education**

All rooms are under supervision of the occupational safety and health officer as well as the fire safety officer. All rooms are equipped with safety regulations and all buildings are properly equipped with fire equipment and fire instructions. The departments are equipped with first aid kits. The premises for practical work are equipped with a sink with hot and cold water, a container with soap and paper towels or hand dryers. The majority of rooms have mechanical ventilation systems. Rooms for clinical work are equipped with devices increasing safety during work with animals: repressors for large animals, safety gloves for cats, muzzles for dogs, cages for small animals - dogs and cats. Depending on the kind of practical work, students are obligated to wear protective medical clothes and disposable rubber gloves.

At the beginning of the first semester of the first year, students undergo an official training performed by the safety and health officer. The training is mandatory for every student. Before starting the practical work in each particulate subject, students are informed about the safety rules. Preliminary course of safe animal handling is performed during practical classes of "Topographical Anatomy" (2nd year of study) and during the holiday farm practice after the 2nd year of study. Detailed and intensive training on safety during work with dogs, cats, exotic and wild animals, farm animals is an integral part of the practical education and it is performed by the staff of clinical departments. Safety training is also performed before visits in slaughterhouses and foodstuff processing units. During visits, the students are obligated to wear required protective clothes and safety helmets - when required. With regard to safety in radiology, students are trained during the course of Radiology how to safely work while taking an X-ray, including wearing protective lead clothing. Students are only involved in positioning the patient under the X-ray machine. While taking X-rays students have to exit the room with X-ray generator and be in the safe zone.

## **6.1.5 DIAGNOSTIC LABORATORIES AND CLINICAL SUPPORT SERVICES**

### **6.1.5.1. The diagnostic laboratories**

*Briefly describe the diagnostic laboratory facilities available for clinical diagnostic work.*

#### **Biochemical and haematological laboratory<sup>1</sup>**

Localization: building 106D, room 5.

Equipment:

- haematological analyzer IDEXX LaserCyte,
- blood biochemical analyzer IDEXX VET TEST 8008,
- electrolyte and blood gas analyzer IDEXX Vetstat,
- coagulometer IDEXX Coag DX,
- urine analyzer IDEXX Vetlab.

---

<sup>1</sup> Analyses are shared between laboratories of the Department of Clinical Diagnostic and the Department of Internal Medicine

Analyses:

- haematological parameters - RBC, HCT, HGB, MCV, MCH, MCHC, RDW, RETIC, WBC, NEU, LYM, MONO, EOS, BASO, PLT;
- blood biochemical parameters: ALB, ALKP, ALT, AMYL, AST, BUN, CA, CHOL, CK, CREA, GGT, GLU, LDH, LIPA, MG, NH<sub>3</sub>, PHOS, TBIL, TP, TRIG, URIC, Glucose;
- electrolyte and blood gas parameters: pH, pO<sub>2</sub>, pCO<sub>2</sub>, HCO<sub>3</sub><sup>-</sup>, Na<sup>+</sup>, K<sup>+</sup>, Cl<sup>-</sup>, TCO<sub>2</sub>, anion gap, Ca<sup>2+</sup>;
- blood coagulation parameters: aPTT, PT, PTT;
- urine parameters: leukocytes, glucose, pH, protein, ketone bodies, urobilinogen, bilirubin, red blood cells/hemoglobin.

### **Biochemical laboratory**

Localization: building 106, room W15.

Equipment:

- biochemical analyzer Accent-200 (Cormay),
- coagulology analyzer– Croag-Chrom 3003 (Bio-ksel),
- urine analyzer – Clinitec-50 (Siemens),
- acid-base balance analyzer – Rapidlab -348 (Siemens),
- microplatelets scanner Elisa (Biokom).

Analyses:

- biochemistry profile examination – enzymes, micro- and macroelements, electrolytes,
- coagulology profile examination,
- fluid examinations – urine, CSF, body fluids,
- acid-base balance,
- acute phase proteins, specific proteins.

### **Haematological laboratory**

Localization: building 106, room W105.

Equipment:

- hematological analyzer ADVIA 2021i (Siemens),
- hematological analyzer ABX ABC VET (Horiba).

Analyses:

- haematological examinations.

### **Bacteriological laboratory**

Localization: building 105, room 142.

Equipment:

- refrigerators, 2 incubators, gas burners, densitometer, microscopes, general equipment for bacteriological studies.

Analyses:

- diagnosis of gram-positive and gram-negative bacteria from different clinical materials, diagnosis of fungi pathogenic for animals, study of resistance of bacteria and fungi on the chemotherapeutics and antibiotics.

### **Mycological laboratory**

Localization: building 105, room 136.

Equipment:

- refrigerators, 2 incubators, gas burners, microscopes, general equipment for mycological study.

Analyses:

- diagnosis of fungi pathogenic for animals, study on resistance of fungi to chemotherapeutics.

### **Parasitological laboratory**

Localization: building 105, room 122A, B.

Equipment:

- laminar flow chamber, refrigerated centrifuge, thermomixer, microscopes and stereomicroscopes, refrigerators, freezers, incubator, centrifuge, autoclave.

Analyses:

- parasitological coprology, entomology, serology and molecular biology.

### **Histopathology laboratory**

Localization: building 105D, rooms 14, 15, 19, 20, 113 – 121.

Equipment:

- tissue processor, incubators, rotary microtomes, bone decalcification equipment, light microscope with digital camera Olympus BX51, slide scanner with color and monochrome cameras Panoramic Midi (3D-Histech).

Analyses:

- histopathological and immunochemical examinations.

### **Serological laboratory of mammalian diseases diagnostic**

Localization: building 105B, room 28.

Equipment:

- microplate reader Biogenex, centrifuges Eppendorf, refrigerators, general laboratory equipment.

### **Molecular biology laboratory of mammalian diseases diagnostic**

Localization: building 105, room 7.

Equipment:

- thermocycler (Eppendorf),
- real-time thermocycler Rotor Gene (Corbett Research),
- thermomixer (Eppendorf),
- two centrifuges Eppendorf,
- centrifuge Gilson,

- spectrophotometer UV/VIS (Eppendorf),
- homogenizer Ultra—Turrax (IKA),
- vortex (Biosan),
- laminar flow chamber (ESCO Biotech),
- autoclave (Cominox),
- gel visualization and documentation system Gel Doc (Bio-RAD),
- two electrophoresis equipment Power Pac Basic (Bio-RAD),
- 3 refrigerators.

Analyses:

- molecular diagnostic of mammalian diseases.

### **Endocrinology laboratory**

Localization: building 106P, P21.

Equipment:

- liquid scintillation counter TriCarb 2800TR,
- microplate photometer Multiskan FC,
- automatic gamma counter Wizard 2470-0020,
- centrifuge J6 Beckman.

Analyses:

- steroid hormones.

### **Cytological laboratory**

Localization: building 106P, P4.

Equipment:

- light microscope Olympus BX50 with camera,
- IVOS Sperm Analyzer.

Analyses:

- vaginal cytology,
- computer assisted sperm analysis.

### **Avian haematological and biochemical laboratory**

Localization: building 105, room: 15.

Equipment:

- Fully automatic hematologic analyzer Sysmex XT-1800i (working based on flow cytometry),
- Automatic biochemical analyzer Biosystem A25,
- Optical microscope Olympus CX41 with camera,
- Centrifuge with cooling Beckman-Coulter Allegra X-15R,
- Ultracentrifuge Beckman-Coulter Optima MAX-XP,
- Manual pipettes.

Analyses:

- Biochemical and hematological parameters of blood.

### **Serological laboratory of avian diseases diagnostic**

Localization: building 105, room 16.

Equipment:

- Automatic pipetting station Eppendorf EpMotion,
- Centrifuge with cooling Beckman-Coulter Allegra X-15R,
- Universal microplate reader Biotek Elx 800,
- Automatic plate washer Biotek Elx50,
- Manual pipettes.

Analyses:

- Serological diagnostic of birds infectious diseases,
- Serological monitoring.

### **Molecular biology laboratory of avian diseases**

Localization: building 105, room: 050.

Equipment:

- Automatic pipetting station Janus,
- Automatic tissue homogenizator,
- Ultrafreezer,
- Deepfreezer,
- PCR and qPCR thermocycler with computer,
- Thermoblock,
- Thermomixer,
- Three laminar chambers,
- Centrifuge,
- Gel recording apparatus (Gel Doc XR+),
- Dishwasher,
- Two autoclaves,
- Water purifying system,
- Manual pipettes.

Analyses:

- Molecular diagnostics of birds infectious diseases.

### **Diagnostic laboratory of honey bee diseases**

Localization: building 105, room 122A, B.

Equipment:

- laminar flow chamber, refrigerated centrifuge, thermomixer, microscopes and stereomicroscopes, refrigerators, freezers, incubator, centrifuge, autoclave.

Analyses:

- diagnosis of honey been diseases.

### **Laboratory of forensic veterinary medicine and cell pathomorphology**

Localization: building 105E, rooms 3, 4.

Equipment:

- tissue processor,

- embedding station,
- staining automat,
- sliding microtome,
- rotary microtome,
- cryostat,
- microscopes with digital cameras,
- thermostat,
- centrifuge,
- water purification system,
- water bath,
- hot plate.

Analyses:

- histopathology,
- preparation of forensic veterinary opinions.

#### **6.1.5.2. Central clinical support services**

*Indicate the nature of central clinical support services and how they are organised (e.g. diagnostic imaging, anaesthesia, etc.)*

##### **RTG diagnostic service**

Localization: building 106L.

Equipment:

- RTG Multax 320 with digital system AGFA CR 25.0 scanner,
- Mobile radiographic generator – RALCO (Italy, 2mmA/125kVp).

##### **MRI diagnostic service**

Localization: building 106CH.

Equipment:

- MRI Vet Grande ESAOTE 0.25 T.

##### **USG and ECG diagnostic service**

Localization: building 106, room 5.

Equipment:

- Ultrasound Aloka SSD-4000SV with Doppler system,
- Electrocardiograph BTL LT,
- Holter EKG Mortara.

Examinations: 1) imaging of abdominal organs (liver, pancreas, kidney, bladder, prostate), 2) heart and vesicles (cardiac measurements in B, M and D - mode and vascular measuring), 3) 24-hour monitoring of cardiac function.

**Videoendoscopy diagnostic service**

Localization: building 106, room 5.

Equipment:

- Videoendoscope OLYMPUS,
- Videogastroscope GIF 145,
- Videocolonoscope CF 165L,
- Fiberoureteroscope URF P5,
- Cardiomonitor PM-9000 Vet Mindray 10,
- Pulse Oximeter Monitor MedAir.

Examinations: esophagoscopy, gastroscopy, duodenoscopy, colonoscopy, uretroscopy, cystoscopy, biopsies, removal of foreign bodies.

**Electrophysiology diagnostic service**

Localization: Clinic of Internal Medicine Department, building 106W.

Equipment:

- multipurpose electrodiagnostic examination device Viasys Nicolette Viking Quest,
- EEG examination device Viasys Nicolette Viking Quest.

Analyses: BAER (brainstem auditory evoked responses), SSEP (somatosensory evoked potentials), EMG (electromyography), NCV (nerve conduction velocity), ENG (electroneurography), EEG (electroencephalography).

**Laparoscopy and arthroscopy service**

Localization: building 106L (first floor level)

Equipment:

- cold light sources: REMA, STORZ, STRYKER;
- endocameras: SOPRO, REMA, STRYKER, PRECOPTIC;
- insufflation machines: NONA, REMA, STORZ;
- endovideo recorder: PANASONIC;
- endomonitors: REMA, PANASONIC;
- endoprinter: SONY;
- arthroshever: FMS duo;
- arthropump: FMS duo;
- endovaporizator: MITEK JONSON.

### 6.1.6 SLAUGHTERHOUSE FACILITIES

*Describe briefly the slaughterhouse facility to which the Faculty has access, including distances from the Faculty and level of activity.*

<b>Slaughterhouse location</b>	<b>Slaughtered animals</b>	<b>Distance from the faculty (km)</b>	<b>Level of activity</b>
Poultry Company Indykpol S.A. ul. Jesienna 3, 10-370 OLSZTYN	poultry (chicken, turkey)	11	The modern slaughterhouse /processing plant; operation under HACCP system. There are two separated lines for chickens and turkeys (40 000 chicken broilers/day and 14 000 turkeys/day).
Meat Company "Warmia" ul. Olsztyńska 3, 11-300 BISKUPIEC	pigs, cattle	45	The modern slaughterhouse with two separated lines for pigs and cattle (500 pigs/day and 60 cattle/week; under HACCP system).
Animals Group S.A. with the registered office in MORLINY, 14-100 OSTRÓDA	cattle	46	The modern slaughterhouse with line for cattle – 160 cattle a day; under HACCP system.

### 6.1.7 FOODSTUFF PROCESSING UNIT

*Describe briefly any access that the Faculty has to foodstuff processing units.*

<b>Plant location</b>	<b>Kind of food</b>	<b>Distance from the Faculty (km)</b>	<b>Level of activity</b>
Dairy Plant "Polmlek" ul. Poprzeczna 24 10-339 OLSZTYN	milk and milk products	8	Production of UHT milk and milk products, powdered products, butter, cheese etc.; under HACCP system
Mlekovita Dairy Cooperation Branch in Lubawa ul. Wyzwolenia 3 14-260 LUBAWA	milk and milk products	71	The modern dairy plant with the lines for production of UHT products, yoghurt, kefir, buttermilk, butter, ice cream, Swiss and English type cheese, smoke cheese, Mozzarella, powdered products etc.; under HACCP system and ISO 22 000
Poultry Company Indykpol S.A. ul. Jesienna 3, 10-	poultry meat	11	The modern poultry plant with high hygienic standard and specific lines for production of chicken broilers and turkey

370 OLSZTYN			carcasses, sausages, poultry pie and meat articles; under HACCP system and specialist systems BRC and IFS.
Meat Company "Warmia" ul. Olsztyńska 3, 11-300 BISKUPIEC	pork, beef	45	The modern meat plant. Production of pork, beef and different meat products (sausage, cans, ham, smoked products etc. under HACCP system.
Animals Group S.A. with the registered office in MORLINY, 14-100 OSTRÓDA	pork, beef, white meat	46	The modern meat plant. Production of pork, beef and white meat. Production of various assortments of meat products well known on Polish and EU market. It has implemented HACCP system.

### 6.1.8 WASTE MANAGEMENT

*Briefly describe the systems and equipment used for disposing of waste material; cadavers, carcasses, biological waste of different types, excreta, etc.*

Biological waste material including cadavers, body parts and organs are stored in special plastic containers in the waste cold-room at the Department of Pathological Anatomy. They are taken once a week (or when necessary more frequently) by a specialized company "FIGA" (Andrzej Figa, 11-300 Biskupiec, Słoneczna Str. 3, Vet. No. 28143301) and transported to utilization. A representative of the company issues a document confirming the receipt of the waste material. The cold-room is disinfected regularly after disposing of the waste material.

Syringes, needles, plastic tubes and other single-use medical and laboratory consumables are stored at departments and taken by medical and veterinary waste incinerator company (ZGOK, 10-467 Olsztyn, Sprzętowa Str. 3).

Chemical wastes are collected by a technical group of the university workers to the chemical waste storage room and periodically taken by specialized companies.

Manure from animal rooms is collected in a special facility. Periodically, it is taken by a technical group of the university workers and transported to the agricultural companies located in Bałdy and Bałcyny, where it is subjected to bio-disinfection process. In isolation facilities, manure is packed into special containers and transported directly to the place of disinfection (by chemical treatment with calcium oxide and bio-disinfection).

The sewage from clinics is drained to the dedicated animal sewage system. In case of isolation facilities, the sewage is subjected to the chemical disinfection using a special disinfection facility.

### 6.1.9 FUTURE CHANGES

*Outline any proposed changes in the premises that will have a substantial effect on the Faculty, and indicate the stage which these have reached.*

1. The contract concerning the construction of the isolation pavilion for horses and cattle was signed in February 2012. The building should be ready in May 2012.

2. The project of a further modernization of premises of the FVM is under preparation. The range of planned activities includes:
- modernization of the building 105J, where the Department of Animal Anatomy is localized (deep reorganization of the building, rebuilding of the dissection rooms, the storage room for cadavers, the laboratories, installation of a new ventilation system) and purchase of a new equipment (necropsy tables, lamps, tanks for cadavers and anatomical preparations);
  - modernization of the building 105D, where the Department of Pathological Anatomy is localized (renovation of the necropsy rooms, the student microscopy room, the laboratories) and a purchase of the equipment to the histopathology laboratory;
  - renovation of premises for practical work for student groups in microbiology, parasitology and pathophysiology;
  - renovation of restrooms for students and staff in both buildings;
  - renovation of corridors in both buildings and their transformation into “the pleasant and comfortable space for students”;
  - installation of the new ventilation system in the Prof. K. Markiewicz’s. Lecture Hall.
- The project will be submitted to the MSHE of the Polish Government.
3. The internet service called VPWM, addressed to the veterinary students and surgeons, is in the final phase of construction. The web portal will offer a board range of education materials for students: articles, case reports, digital histological and histopathological slides, 2D and 3D-images of anatomical preparations, USG, RTG, MRI images, films form surgical operations, etc.

## 6.2 COMMENTS

*Comment on the adequacy of the buildings in general for undergraduate teaching.*

The buildings are almost 30-years-old. The premises are successively modernized, however, some parts of the buildings are still waiting for renovation.

The following premises should be modernized or renovated immediately:

- the dissection rooms, the storage room for cadavers and the laboratories in the Department of Animal Anatomy in the building 105,
- the necropsy rooms, the student microscopy room and the laboratories in the Department of Pathological Anatomy,
- the rooms for practical work for student groups in microbiology, parasitology and pathophysiology in the building 105,
- the rooms with cages for dogs located in the building 106,
- the external cages for dogs located at the building 106,
- the restrooms for students and staff in both buildings,
- the corridors in both buildings.

*Comment on the adequacy of the equipment in general for undergraduate teaching.*

The adequacy of the equipment in general for undergraduate teaching and research

Departments	Equipment for undergraduate teaching	Equipment for research
Department of Animal Anatomy	adequate, but new equipment for the dissection rooms and the storage room for cadavers and anatomical preparations is needed	very well adequate
Department of Histology and Embryology	very well adequate	very well adequate
Department of Clinical Physiology	very well adequate	very well adequate
Department of Pharmacology and Toxicology	very well adequate	very well adequate
Department of Pathophysiology, Forensic Veterinary Medicine and Administration	adequate, but new equipment for classes in pathophysiology is needed	well adequate
Department of Pathological Anatomy	adequate, but modernization of the necropsy rooms and the student microscopy room is needed	adequate
Department of Microbiology and Immunology	adequate, but new equipment for classes in microbiology is needed	adequate
Department of Epizootiology	very well adequate	very well adequate
Department of Avian Diseases	very well adequate	very well adequate
Department of Parasitology and Invasive Diseases	well adequate, but some minor equipment is still needed	adequate
Department of Veterinary Prevention and Feed Hygiene	very well adequate	very well adequate
Department of Animal Reproduction with Clinic	well adequate, but some minor equipment is still needed	very well adequate
Department of Surgery and Radiology with Clinic	well adequate, but computer tomography and some minor equipment is still needed	very well adequate
Department of Internal Medicine with Clinic	well adequate, but some minor equipment is still needed	very well adequate
Department of Clinical Diagnostics	very well adequate	very well adequate
Department of Veterinary Protection of Public Health	very well adequate	very well adequate
Polyclinic	well adequate, but some minor equipment is still needed	-
Mobile clinic	adequate, but new cars are needed	-

*Comment on the maintenance of buildings and equipment.*

The available funding are hardly sufficient for routine maintenance of clinical and laboratory equipment.

### **6.3 SUGGESTIONS**

*If you are unhappy with any situation, please list any improvements you would make in order of preference.*

1. The following modernizations or renovations should be undertaken as soon as possible:
  - modernization of premises of the Department of Animal Anatomy (deep reorganization of the building, rebuilding of the dissection rooms, the storage room for cadavers, the laboratories, a new ventilation system);
  - purchase of a new equipment to the Department of Animal Anatomy (necropsy tables, lamps, tanks for cadavers and anatomical preparations);
  - modernization of premises of the Department of Pathological Anatomy (renovation of the necropsy rooms, the student microscopy room, the laboratories);
  - a purchase of the equipment to the histopathology laboratory of the Department of Pathological Anatomy;
  - renovation of the premises for practical work for student groups in microbiology, parasitology and pathophysiology;
  - renovation of the restrooms for students and staff in both buildings;
  - renovation of the corridors in both buildings and their transformation into “the pleasant and comfortable space for students”;
  - renovation the rooms with cages for dogs located in the building 106 and the external cages for dogs located at the building 106;
  - installation of a new ventilation system in the Prof. K. Markiewicz’s Lecture Hall;
  - renovations of some laboratories and office rooms;
  - purchase of a new car for the mobile clinic.

In a long-time perspective, it will be necessary to extend the clinical premises. It should be done in connection with reorganization of the clinics from subject-oriented departments to species-oriented units.

## CHAPTER 7

### ANIMALS AND TEACHING MATERIAL OF ANIMAL ORIGIN

*written by Prof. dr. hab. Sławomir Zduńczyk*

#### 7.1 FACTUAL INFORMATION

##### 7.1.1 ANATOMY

*Indicate the materials used in practical anatomical training, and how they are obtained and stored.*

The following materials have been used in practical anatomical training: live animals (dogs, cows, horses), bones, preparations of different parts of body including internal organs (dogs, horses, pigs, cattle, sheep) and whole cadavers of various species of domestic animals (dogs, pigs, sheep, poultry). The Department of Animal Anatomy possesses complete sets of bones and skeletons of various animal species which are used in student trainings.

Live animals used to the ultrasound examinations are obtained from the Faculty Clinics.

Dog cadavers are obtained from the Polyclinic of the Faculty and from private clinics in the Olsztyn area (euthanized animals).

Horse, cattle and sheep cadavers are obtained from the owners in the Olsztyn area. In general, cadavers of healthy animals (pigs, sheep) and animals which died from non-infectious diseases (dogs, horses) have been used.

Parts of the body and internal organs are also obtained from the whole cadavers used in the practical training and they are also purchased from the local slaughterhouses. Poultry cadavers are purchased from local poultry breeding companies.

Some cadavers and internal organs are used in the fresh state (exenterations). Some cadavers of dogs and parts of large-animal cadavers are preserved in formaldehyde solution for a period of 12 months. After fixation for a suitable period of time they are stored in a saturated saline solution during the whole academic year to avoid exposure to formalin.

The Department of Animal Anatomy possesses many plastinated preparations (produced in the own plastination laboratory) of different parts of bodies and internal organs of various animal species.

Table 7.1: Material used in practical anatomical training

	Dog			Ruminant			Equine			Other		
	2011	2010	2009	2011	2010	2009	2011	2010	2009	2011	2010	2009
Live animals	<b>10</b>	<b>10</b>	<b>9</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>2</b>			
Cadavers	<b>15</b>	<b>16</b>	<b>14</b>	<b>4</b>	<b>6</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>20</b>	<b>20</b>	
Specimen	<b>72</b>	<b>70</b>	<b>68</b>									
Other	<b>20</b>	<b>22</b>	<b>20</b>	<b>15</b>	<b>14</b>	<b>16</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>15</b>	<b>14</b>	<b>18</b>
Eg ultrasound	<b>10</b>	<b>10</b>	<b>9</b>	<b>3</b>	<b>3</b>	<b>2</b>						
Computer assisted teaching												

### 7.1.2 PATHOLOGY

*Indicate the nature and extent of any additional sources of material for the training in necropsies and pathological anatomy, including slaughterhouse material.*

Small-animal cadavers are delivered for necropsies from the FVM Clinics and from private clinics in the Olsztyn area. Large animal cadavers come from the Faculty Clinics, from private clinics in the Olsztyn area and from animal farms.

Tissues with pathologic changes are used in practical classes in histopathology. They are obtained from biopsies or from cadavers delivered from the Faculty Clinics and from private clinics into the section at the Department of Pathological Anatomy.

Additional necropsies are also performed in the field, during farm visitations.

Table 7.2. Number of necropsies over the past 3 years

Species		Number of necropsies			Average
		2011	2010	2009	
Food-producing animals	cattle	6	4	4	124
	small ruminants	3	3	7	
	pigs	145	94	107	
Equine		3	3	13	6
Poultry*		1333	1326	1356	1340
Rabbits		1	1	2	
Companion animals/exotic	dogs	160	102	89	327
	cats	29	14	19	
	reptiles	39	30	36	
	pet rodents	3	2	3	
	amphibians		1		
	silver foxes	96**	90**	11/86**	
	minks	108**	4/87*	64**	

Explanations: \* - necropsies of poultry cadavers performed in the Department of Avian Diseases. Poultry cadavers are usually obtained from large-scale poultry farms; \*\* necropsies of silver fox and mink cadavers performed in the Department of Epizootiology.

### 7.1.3 ANIMAL PRODUCTION

*Indicate the availability of food-producing animals for the practical teaching of students*

*a. onsite within the institution;*

*b. on other sites to which the institution has access.*

a) As a part of regular classes in animal production, students are given the opportunity to visit the Equestrian Center (Olsztyn) and university farms (dairy cows, small ruminants, pigs) in Bałdy and Bałcyny

b) Students visit also the pig farm in Gnieździno (ca. 70 km) and poultry farm in Kieźliny (10 km) cooperating with the Faculty.

#### 7.1.4 FOOD HYGIENE/PUBLIC HEALTH

*Indicate the availability of farm animals and products of animal origin for the practical teaching of students in veterinary public health, food hygiene, inspection and technology.*

At the Department of Veterinary Protection of Public Health students have practical exercises with farm animals and products of animal origin in relation to veterinary public health, food hygiene, veterinary technology and inspection within the framework of the following subjects:

- 1) Hygiene of slaughter animals and meat,
- 2) Hygiene of milk,
- 3) Hygiene of animal origin products.

Ad 1)

During practical classes that are held at nearby slaughterhouses/abattoirs (Animex Group S.A. with the registered office in Morliny, Morliny 15, 14-100 Ostróda; Poultry Company Indykpol S.A., ul. Jesienna 3, 10-370 Olsztyn; Meat Company Warmia, ul. Olsztyńska 3, 11-300 Biskupiec; Meat Company Potorscy Sp. j., Krokowo 63 a, 11-320 Jeziorany), students perform ante-mortem inspection of slaughter animals (cattle, pigs, poultry), they get acquainted with different types of slaughter of slaughter animals and the technique of post-mortem inspection of carcasses and internal organs of the animals slaughtered. During the post-mortem inspection, they collect samples for trichinoscopic examination and possibly for bacteriological, toxicological and other tests. Additionally, they get acquainted with the technique of sanitary-veterinary inspection of game animals and sanitary-veterinary procedures after diagnosing infectious, non-infectious and parasitological diseases as well as deviations in meat quality.

Within the frameworks of this subject, students, after the 4<sup>th</sup> year of studies complete 2-week obligatory practice at various slaughterhouses/abattoirs in Poland during which they improve their skills in ante-mortem inspection of animals, post-mortem inspection as well as sanitary-veterinary procedures in case of diagnosed diseases. They get familiarised with the documentation involved in the work of the official veterinarian concerning identification of animals, their transport to the slaughterhouse/abattoir, ante-mortem and post-mortem inspection and meat judgement.

Ad 2)

Within the framework of practical exercises, students travel to the local dairy cattle farms (Ryszard Wagner – Mokiny 34, 11-010 Barczewo; Aleksandra Ponus – Ortyty 6, 11-010 Barczewo; Krzysztof Olewiński – Garzewko 1, 11-042 Jonkowo; Paweł Policht – Nowa Wieś 56, 11-032 Butryny, Hubert Lorkowski – Gietrzwałd 7, 11-036 Gietrzwałd), where they conduct evaluation of the raw milk obtaining, its storage and transport conditions. They also get familiarised with the current regulations concerning veterinary supervision in connection with the veterinary public health. During practical exercises at the Department, students conduct laboratory tests of raw, pasteurised and UHT milk, fermented dairy beverages, cottage cheeses, ripening rennet cheeses, cheese with mould growth and overgrowth, butter etc. originating from dairy plants (Dairy Plant Polmlek Olsztyn sp. z o.o. –

ul. Poprzeczna 24, 10-339 Olsztyn; Mlekovita Dairy Cooperative, Branch in Lubawa – ul. Wyzwolenia 3, 14-260 Lubawa).

Ad 3)

During practical exercises in the subject of „Hygiene of animal origin products”, that are held at the premises of the Department of Veterinary Protection of Public Health, students conduct sensor analysis as well as bacteriological and chemical tests on various products of animal origin (meat and processed meat products, fish, eggs, etc.). Students also complete a cycle of practical exercises at local plants manufacturing processed food of animal origin (Animex Group S.A. with the registered office in Morliny, Morliny 15, 14-100 Ostróda; Poultry Company Indykpol S.A., ul. Jesienna 3, 10-370 Olsztyn; Meat Company Warmia, ul. Olsztyńska 3, 11-300 Biskupiec; Meat Company Potorscy Sp. j., Krokowo 63 a, 11-320 Jeziorany) getting familiarised in practice with technical processes such as: refrigeration, freezing, production of pasteurised and sterilised canned products, sausages, pates, headcheeses, cured products, etc.

During the indicated field exercises, students get familiarised with operation of the official Veterinary Inspection and compulsory documentation. They also get acquainted with operation of the food safety systems (GMP/GHP, HACCP).

Within the frameworks of this subject, students, after the 5<sup>th</sup> year of education, have 2-weeks obligatory practice at various plants manufacturing food of animal origin in Poland. There, they get familiarised with methods of the production of different products of animal origin, health aspects of application of different technical processes, principles of cleaning and disinfection conducted at processing plants as well as the role and tasks of Veterinary Inspection in protection of public health and compulsory official documentation.

## **7.1.5 CONSULTATIONS AND PATIENT FLOW SERVICES**

### **7.1.5.1. Consultation**

*State the number of weeks in the course of the year, during which the clinics are open.*

*State the number of consultation days each week. State the consultation hours.*

The Veterinary Clinics of the Faculty include Polyclinic (general health care of small animals), Mobile Clinic (general health care of large animals), Department of Animal Reproduction with Clinic, Department of Epizootiology, Department of Internal Medicine with Clinic and Department of Surgery and Radiology with Clinic (specialised consultations for small and large animals). Specialist consultations are offered also by the Department of Clinical Diagnostics, Department of Avian Diseases and Department of Parasitology and Invasive Diseases.

The Polyclinic and Mobile Clinic operate 24 hours a day, seven days per week, year round. The specialist consultations are held Monday-Friday between 8 a.m. and 2 p.m.

### **7.1.5.2. Patient Flow**

*The number of animals to be stated are for all disciplines combined (medicine, surgery, reproduction, etc.). In Table 7.3 only animals coming into the Faculty should be included.*

*Animals studied in practical teaching outside the Faculty should be entered in the section entitled*

*“Ambulatory Clinic” (Table 7.4).*

*The term “consultation” refers to outpatient visits during daily consultation hours. “Hospitalization” refers to patients retained in the clinic as inpatients.*

Table 7.3. Number of cases: a) received for consultation, and b) hospitalized in the Faculty clinics, in the past three years.

Species		Number of cases						Average
		2011		2010		2009		
		a	b	a	b	a	b	
Food-producing animals	bovine		11		15		13	31
	ovine, caprine	5	28		12		10	
	porcine							
	other farm animals							
Equine		31	74	26	118	92	84	142
Poultry		138	37	140	21	116	45	140
Rabbits		25						
Companion animals/exotics	canine	10480	712	9865	700	9947	911	13201
	feline	2564	305	2204	371	2111	580	
	pet rodents (guinea pig, hamster, rat, mouse, chinchilla, gerbil, degu)	157	10	122	9	71	3	
	pet rabbits	40	7	43	7	31	2	
	ferrets	42	5	34	3	47	2	
	reptiles (turtle, snake, lizard)	13		20		23		
	pet birds	14	3	14		32		

### 7.1.6 VEHICLES FOR ANIMAL TRANSPORT

*State the number and the nature of the Faculty vehicles that can be used to bring sick animals to the clinics.*

The Faculty Clinics have one vehicle (VW LT46) used for the transportation of sick large animals to the clinics. The transport costs are covered by the animal owners. Horses are often bringing to the clinics by owners with their vehicles.

### 7.1.7 ON-CALL EMERGENCY SERVICE

*Outline what emergency service is available (full-time, 24 h service, ON-CALL or 8-22 h duty) and discriminate for species.*

A full-time, 24-hour emergency service is offered 7 days per week by the Polyclinic (small animals) and the Mobile Clinic (large animals).

### 7.1.8 ON FARM TEACHING AND OUTSIDER PATIENT CARE

#### 7.1.8.1 Ambulatory (Mobile) Clinic

*The Ambulatory (Mobile) Clinic is defined as a unit which provides on-call outside services to farms*

*and other institutions and is generally operated on a commercial basis.*

*- State the number of hours of operation per week. Is emergency service provided 24 h/day, 365 Days per year? What is the degree of student participation (include duties)*

*- State the number, the type and the seating capacity of the vehicles used to transport students working in the ambulatory (mobile) clinic.*

*- State the approximate number of sick animals (specify cattle, swine, equine, poultry or small ruminants, others) seen by the ambulatory clinic per year during the past three years (Table 7.4).*

*- State the average number of visits in a year made by the ambulatory clinic to farms and other Institutions.*

The Mobile Clinic is run by the Ambulatory Service of the Department of Animal Reproduction with Clinic. The Mobile Clinic operates 24 hours per day, seven days per week, year round. It disposes of three vehicles (VW Transporter T5 with 5 seats for students, Opel Combo with 4 seats for students and Renault Kangoo with 4 seats for students).

There are three or four students on every duty. Students stay in telephone contact with the veterinary surgeons who inform them in the case of emergency. In emergency case in the night-time, the veterinary surgeon calls to students and then they go together for a visit. In a day-time they meet at 8.00 am and go for visits that are arranged for a given day. Students are allowed to examine animals, inject medicines (iv, im, sc), help in hoof-trimming, assist in surgery.

Furthermore, Department of Avian Disease and Department of Epizootiology arrange mobile service using private vehicles. These services are available on call during working hours.

The average number of farm visits provided by the Mobile Clinic amounts to 1900 a year.

Table 7.4 a. Number of cases seen by the Ambulatory (Mobile) Clinic in the past three years.

Species		Number of patients			Average
		2011	2010	2009	
Food-producing animals	cattle	<b>11345</b>	<b>8644</b>	<b>4596</b>	<b>8793</b>
	small ruminants	<b>208</b>	<b>319</b>	<b>219</b>	
	pigs	<b>271</b>	<b>197</b>	<b>255</b>	
	fur animals	<b>131</b>	<b>58</b>	<b>137</b>	
Equine		<b>390</b>	<b>348</b>	<b>433</b>	<b>390</b>
Poultry (No. of flocks)*		<b>29</b>	<b>13</b>	<b>15</b>	<b>19</b>
Rabbits (No. production units)					

\* performed by Department of Avian Diseases

#### **7.1.8.2 Other on farm services and outside teaching**

*If there is no on duty Ambulatory (Mobile) Clinic, a Faculty may have defined contracts with farms or other institutions to allow for outside teaching and patient care. Similarly, a Faculty may provide herd-health services.*

*Please indicate if and to what extent this applies to your Faculty. If applicable please provide No. of patients seen on outside teaching.*

The Department of Animal Reproduction with Clinic provides herd-health service for 8 dairy cattle farms (total 1400 cows) located in radius of 60 km from Olsztyn. During a farm visit the accompanying 3 students can participate in clinical examination and individual

animal treatment, and can experience practical foundations of herd health management. Each student has the possibility to at least once participate in such a visit. The average number of herd health visits amounts to 196.

The Department of Avian Diseases provides health care for poultry farms:

- RSP “Kieźliny” in Kieźliny (ca. 10 km), 40 000 meat turkeys,
- „Agrocentrum Sp. z o.o.” in Warkały (ca. 12 km), 25 000 meat turkeys,
- “Grelavi S.A.”, 10 farms located about 100 km from Olsztyn, total 90 000 parent turkeys and 2 hatcheries in Nagłady (ca. 20 km) and in Kętrzyn (ca. 80 km).

The accompanying students are involved in the work with the whole flock.

The Department of Epizootiology provides expert consultations for 4 fish farms located about 100 km from Olsztyn (total ca. 120 tons of fish) and for 2 fur animal farms (600 minks and 300 foxes).

The Department of Parasitology and Invasive Diseases provides health care for 2 apiaries (one in Olsztyn, the second one 40 km from Olsztyn) including 2700 bee colonies. The accompanying students assist in handling, examining, sampling and drug administration.

The Faculty has agreements with several farms and outside clinics, where students have access to both healthy and sick animals in order to gain experience in the field of animal production and veterinary practice:

- „Agroskandawa” – cattle farm in Błędowo, (ca. 120 km), 800 dairy cows and 300 beef cows,
- „POLHOZ” Szymankowo, gospodarstwo Wojanowo, (ca. 180 km), 350 dairy cows,
- Helena Wróblewska, Kierzliny (ca. 18 km), 250 dairy goats and 25 multi-purpose sheeps,
- Department of Sheep and Goat Breeding, Faculty of Animal Bioengineering UWM Olsztyn, 50 multi-purpose sheeps and 20 multi-purpose goats,
- “Prima Farms” Sp. z o.o., pig farm Bykowo (ca. 75 km), 6000 sows,
- Mink farm in Barczewko (ca. 40 km), 600 minks,
- Veterinary Clinic Raś A. w Księżno (ca. 45 km),
- Veterinary Clinic “Vet-Com” Sp. z o.o. w Olsztynie,
- Veterinary Clinic Palczewski G. and Zakrzewski Z. w Grabowie (ca. 60 km).

Table 7.4b. Number of patients seen on outside teaching in the past three years.

Species		Number of patients			Average
		2011	2010	2009	
Food-producing animals	cattle	<b>2181</b>	<b>2165</b>	<b>2168</b>	<b>3853</b>
	small ruminants	<b>462</b>	<b>378</b>	<b>455</b>	
	pigs	<b>700</b>	<b>1500</b>	<b>1550</b>	
	other farm animals				
Equine		<b>1073</b>	<b>1064</b>	<b>1089</b>	<b>1075</b>
Other					
Poultry (No. of flocks/No. of birds)		<b>7/61000</b>	<b>4/41000</b>	<b>4/51000</b>	<b>5/51000</b>
Bees (No. of bee colonies)		<b>50</b>	<b>42</b>	<b>39</b>	<b>44</b>
Fish (No. of fish farms/tons)		<b>13/40</b>	<b>2,5</b>	<b>8/55</b>	<b>8/35</b>

### 7.1.9 OTHER INFORMATION

*Indicate any notable additional outside sources of material for clinical training purposes, such as animal charities, animal awaiting slaughter, etc.*

Rectal examinations can be trained in cattle awaiting slaughter at the slaughter house in Morliny (ca. 40 km). Some cows are purchased or lent from a cattle dealer for clinical examination and demonstration of teat surgery. For practice exercises in horse reproduction, horses owned by stud Janusz Kojrys, Olsztyn, and by stud in Galiny are used. For training in reproduction, organs from different species are purchased from slaughterhouses. Stillborn calves and foals are acquired for obstetrics from farms and studs near the Faculty. The Department of Surgery purchases cattle and horse limbs as well as horse heads from slaughterhouses to enable students to perform without help the procedures of hoof correction, claws trimming, amputation and tendon resection, local analgesia, dental extraction and rasping, eyelids surgery and eyeball extraction.

The Clinics cooperate with local Animal Care Societies and animal shelters in Olsztyn and Szczytno (45 km) in order to provide medical care for homeless dogs and cats, as well as to perform castration in homeless cats and dogs.

*Indicate how the level of clinical service that is offered by the Faculty (In small companion animals, equines and production animals) compares with outside practices in terms of facilities, hours of service, equipment, expertise, responsiveness, etc.*

#### **Small animals**

The Polyclinic operates 24 hours per day. Only a few of small animal practitioners in the area of Olsztyn provide emergency service during the night.

The standard of facilities and equipment is high. The Clinics have modern diagnostic equipment (digital x-ray equipment, MRI, Doppler- and echocardiography ultrasonography machine, electrocardiogram units, several endoscopies incl. gastroscopy, laparoscopy and arthroscopy, EEG unit, EMG unit, apparatus for examination of evoked potentials (BAER, VEP, SEP), IVOS sperm analyzer, flow cytometer, PCR Laboratory).

The Clinics also have an on-site laboratories allowing for various types of tests: haematological, biochemical blood and urine tests, cerebro-spinal fluid tests, bacteriological, serological, histological, cytological, immunohistochemical, endocrinological tests, semen analysis. Private practice clinics do not provide such a range of diagnostic tests.

Veterinary surgeons working in the Clinics are either species or disciplinary specialists who present a high level of theoretical and practical knowledge. The expertise is provided by nationally recognized specialists.

#### **Equine medicine**

Clinical service for horses is offered by the Department of Animal Reproduction with Clinic, Department of Animal Surgery and Radiology with Clinic and Department of Internal Medicine with Clinic.

The hours of service are comparable with those in privately owned clinics. The standard of facilities and equipment is high compared to outside practices (OP-room for horses with

anaesthesia box and equipment for inhalation anaesthesia, equipment for bronchoscopy, hysteroscopy and arthroscopy). The expertise is given by nationally recognized specialists.

### **Production animals**

The most cases in production animals were treated by the Mobile Clinic. For sanitary regulations and economic reasons the possibilities for getting production animals to Faculty Clinics are severely limited. The expertise is provided by nationally recognized specialists.

*Provide an indication in percentage terms of the proportion of cases that are primary (i.e. first opinion), and referrals (provide a breakdown by species, if helpful). If the Faculty has a particular aim or policy as regards this mix, describe it.*

The percentage of referral cases in small animals and horses amounts to 30%, in production animals to 10%.

In order to establish and maintain partnership-based relations with private veterinary practitioners, their patients sent to the Clinics for consultation, are sent back afterwards with all tests results.

*Indicate what areas of clinical specialisation are covered, and the extent of the coverage (for example, a veterinarian with particular specialisation may see patients in the clinic for one day a week, 3 afternoons, etc.).*

The Clinics provide a wide range of services carried out by species specialists (small animals diseases, ruminant diseases, equine diseases, pig diseases, poultry diseases, fur animals diseases, fish diseases, bee diseases), as well as by disciplinary specialists (internal diseases, surgery, orthopedics, reproduction, infectious diseases, neurology, gastro-enterology, ophthalmology, dentistry, dermatology, cardiology, oncology, radiology, clinical analysis).

The specialists are available 6 hours a day (from 8 to 14), 5 days a week.

*Indicate the relationship the Faculty has with outside practitioners (in small companion animals, equines and production animals) in terms of matters such as referral work, providing diagnostic or advisory services for private practitioners, practitioners participating in teaching, holiday or “seeing practice” work for students, feedback on the level of clinical training.*

Patients requiring specialist tests and expertise are referred to the Faculty Clinics. All referred patients are released with a written report intended for the owner and the referring veterinarian.

The Faculty cooperates with some private practices in Olsztyn (Dogmed, Olwet, Veterinary Clinic of Bogusław Tworkowski, Veterinary Clinic of Mirosław Obijalski) in order to give the students additional possibility to observe and practice patient treatment. The students make personal contact with individual private veterinary practitioners and voluntarily work for them in order to gain more practice.

After the fourth and fifth year, respectively, students have a monthly practice in private clinics.

There is, however, some tension related to competition for patients, which results from a

great number of private clinics, as well as from the fact that a significant number of veterinary practitioners employed at the Faculty have their own private practice.

*Describe (if applicable) any other relationships with outside organizations that are routinely used to provide students with training (in particular practical training) in other clinical subjects (e.g. pathology work, interaction with state veterinary work).*

Some lectures and classes on veterinary administration and epizootiology are conducted with the participation of members of the Provincial Veterinary Inspectorate, as well as employees of the Border Veterinary Inspectorate. The Department of Epizootiology cooperates with the Sanitary Inspectorate in Olsztyn in the teaching of zoonoses. The food industry and other establishments are visited via excursions.

*Provide an outline of the administrative system(s) used for the patients, e.g. in terms of how case records are kept, how data are retrieved, whether systems are centralized, etc.*

All patients in the Clinics are recorded in a computer “XP Clinic” system, which records all needed patient data including information about medical history, medical examination, additional examination (blood test, X-ray, ultrasound etc.) and about his owner (name, surname, address, bills etc.). After hospitalization, the case history can be printed. In the Department of Epizootiology, the patients are recorded in the Clinical Book.

#### 7.1.10 RATIOS

*See the section „Main Indicators” In Annex Ia for the figures needed for calculating ratios. Give the figures for numerators and denominators. The ratios should then be expressed by taking the numerator as 1.*

Table 7.5: Animals available for clinical training (In the clinics of the Faculty or seen through the Ambulatory Clinic) as ratio to the number of students in the last full year of clinical training

<b>R 11:</b>	No. of students <u>graduating annually</u> No. of food-producing animals Seen at the Faculty <sup>1)</sup>	=	$\frac{160}{31}$	=	$\frac{1}{31}$	Denominator : 0.19
<b>R 12:</b>	No. of students <u>graduating annually</u> No. of individual food- animal Consultations outside the Faculty <sup>2)3)</sup>	=	$\frac{160}{12646}$	=	$\frac{1}{12646}$	Denominator : 79
<b>R 13:</b>	No. of students <u>graduating annually</u> No. of herd health visits <sup>3)4)</sup>	=	$\frac{160}{96}$	=	$\frac{1}{96}$	Denominator : 0.6
<b>R 14:</b>	No. of students <u>graduating annually</u> No. of equine cases <sup>1)</sup>	=	$\frac{160}{142}$	=	$\frac{1}{142}$	Denominator : 0.89

---

<b>R 15:</b>	No. of students graduating annually No. of poultry/rabbit cases <sup>1)</sup>	=	$\frac{160}{140}$	=	$\frac{1}{1}$	Denominator : 0.88
--------------	---	---	-------------------	---	---------------	-----------------------

---

<b>R 16:</b>	No. of students graduating annually No. of companion animals <sup>1)</sup> seen at Faculty	=	$\frac{160}{13201}$	=	$\frac{1}{1}$	Denominator : 82.5
--------------	---	---	---------------------	---	---------------	-----------------------

---

<b>R 17:</b>	No. of students graduating annually Poultry (flocks)/rabbits (production units) seen <sup>2)3)</sup>	=	$\frac{160}{24}$	=	$\frac{1}{1}$	Denominator : 0.15
--------------	---	---	------------------	---	---------------	-----------------------

---

<sup>1)</sup>Table 7.3, average; <sup>2)</sup>Table 7.43, average;

<sup>3)</sup>where applicable use or add information provided in chapter 7.1.8.2;

<sup>4)</sup>see 7.1.8.1.

**Table 7.6: Animals available for necropsy**

---

<b>R 18:</b>	No. of students graduating annually No. necropsies food-producing Animals + equines	=	$\frac{160}{130}$	=	$\frac{1}{1}$	Denominator : 0.8
--------------	--	---	-------------------	---	---------------	----------------------

---

<b>R 19:</b>	No. of students graduating annually No. of poultry/rabbits necropsies <sup>1)</sup>	=	$\frac{160}{1340}$	=	$\frac{1}{1}$	Denominator : 8.38
--------------	--	---	--------------------	---	---------------	-----------------------

---

<b>R 20:</b>	No. of students graduating annually Necropsies of companion animals <sup>1)</sup>	=	$\frac{160}{327}$	=	$\frac{1}{1}$	Denominator : 2.04
--------------	---	---	-------------------	---	---------------	-----------------------

---

<sup>1)</sup>Table 7.3, average

### 7.1.11 OTHER SPECIES

*Indicate how the Faculty deals with fish and other food producing species*

The Department of Epizootiology provides health care for 4 fish farms located about 100 km from Olsztyn (total ca. 120 tons of fish) and offers specialist consultations for other farms.

The Department of Parasitology and Invasive Diseases provides health care for 2 apiaries (one in Olsztyn, second 40 km from Olsztyn) included 2700 bee colonies and offers specialist consultations for other apiaries.

## 7.2 COMMENTS

*Feel free to comment on all data provided in his Chapter. Comment on major developments in the clinical services, now and in the near future. Comment on local conditions or circumstances that might influence the ratios in tables 7.5 and 7.6.*

The number of small patients is sufficient for teaching and it is expected to remain stable in the future. The number of cases in food producing animals and, to some extent, in horses in the Clinics is low. This is compensated by many clinical cases seen by the Mobile Clinic and during outside teaching. For sanitary and economical reasons, cattle and pigs are not delivered to the Clinics. In the region of north-eastern Poland, pigs are raised mainly in large farms and they not accept day-to-day visit by constantly changing groups of students. The Faculty had an agreement with the large pig farm (6000 sows) in Bykowo. Each student spent: 1) one week at the farm in Bykowo or 2) one week in one of two private veterinary practices providing health care in large pig farms. The students take an active part in all veterinary procedures, like vaccination, castration, operation of hernia, blood sampling, application of medicines etc.

## 7.3 SUGGESTIONS

*If the denominators in tables 7.5 and 7.6 for your Faculty are not meeting the range as indicated in Annex I, Supplement A, what can be done to improve these ratios?*

The patient flow in food producing animals and partially in horses is too small. For this reason the students attend most of the cases of these animals outside the Faculty, thus outside services to farms and studs should be increased and further agreements with large pig farms should be signed. Since 2012, mobile service will be offered also by the Department of Internal Medicine with Clinic. To run this service, 1 car (Renault Kangoo) seating 4 students is available.

The number of necropsies of food producing animals (excluding poultry) is too small and should be increased by taking more large animal cadavers from farms.

## CHAPTER 8

### LIBRARY AND LEARNIG RESOURCES

*written by Prof. dr. hab. Sławomir Zduńczyk*

#### 8.1 FACTUAL INFORMATION

##### 8.1.1 LIBRARY AND OTHER INFORMATION ON TECHNOLOGY SERVICES

*Give a general description of the library/libraries of the Faculty/university that are available to students. Indicate how the library/libraries are managed (e.g. library committee).*

*For each major library of the Faculty, please provide the following information, either in narrative or tabular form.*

*Main library:*

- is this specific to the veterinary training establishment?*
- is this common to two or more establishments?*
- Full time equivalents of part time employees*
- Number of full-time employees*
- Number of journals received each year as hard copies,*
- Numbers of full access electronic journals*
- Availability of online literature search*
- Availability of textbooks*
- Number of student reading places*
- Library opening hours: weekdays weekends*
- during term-time*
- during vacations*
- Indicate how the facilities are used by students*

*Subsidiary libraries of the Faculty*

- Please describe the subsidiary (e.g. Departmental) libraries of the Faculty, and arrangements for student access.*
- Indicate whether the main library holds a list of individual books of the subsidiary libraries.*
- Describe any other information services and how are they supported and how student access is regulated*

The University Library in Olsztyn is an university organizational unit carrying out educational, service and scientific tasks. This establishment is not specific to the veterinary training. It also functions as a public science library available to the inhabitants of the town, region and the whole country. The Library was set up on September 1, 1999, as a result of merging two libraries: the Library of Agricultural-Technical Academy (founded in 1951) and the Library of the Higher Pedagogical School (founded in 1974). In October 2007, a modern Library building located in Kortowo II was put into use. The new facility allowed for putting scattered collections together and improved the standard of services provided. The building, which has a space of 19423 square meters, has an integrated system of managing the network of electronic devices (BMS – known as an “intelligent building”). The Library is equipped with devices for digitalizing collections, a vacuum fumigation chamber (for the disinfection of library collections and archive files) and an electronic system for securing collections.

Full time equivalents of part time employees are 1.25, number of full-time employees 140.

An important element of the library space are rooms where the educational activities of the Library are carried out, such as Library Preparation and information skills training for students and other Library users. Two rooms fully equipped with audiovisual devices have been dedicated to the purpose, as well as a computer room with 20 computer stands. Apart from the abovementioned rooms, there is a conference room. Another element important for the University students is the Internet Reading Room with 60 computer stands, a group study room and individual work cubicles.

On the whole, the UWM University Library situated in the new building offers:

- 720 reading places,
- 400 computer stands,
- 8 individual work cubicles,
- 4 lecture rooms (with 150 seats altogether),
- a conference room with 350 seats.

The Library is opened during term-time Monday-Saturday 8.00 a.m. - 8.00 p.m., during vacations Monday - Friday 9.00 a.m. - 4.00 p.m.

The UWM Library gives access to the literature on: humanities, social and theological sciences, legal, economic, veterinary, biological, medical, agricultural and technical studies, and mathematics.

The Library acquires collections mainly through purchases, including national and foreign subscriptions to periodical publications, as well as donations and exchange with national and foreign institutions. Currently (as on December 31, 2011), the library collection comprises 737 613 books (in volumes), 167 538 periodicals (in volumes), 23 databases (in titles), 4 323 e-periodicals (in titles) and 1 491 e-books. The library has 54 746 veterinary books (in volumes), 337 veterinary e-journals (in titles), 1637 veterinary e-books (in titles) and received each year 294 periodicals and journals related to Veterinary Medicine as hard copies.

The Databases for Veterinary Medicine are:

- AGRO
- Elsevier
- ProQuest
- EBSCOhost
- Scopus
- SpringerLink
- Wiley Online Library
- AGRIS

The Library collections are registered in library catalogues which include bibliographic data of stored documents, information about items owned by the library (resources) and about the place of making them available to users (location). A library catalogue may take a traditional form of a card catalogue or may be created in an automatic way – a computer

catalogue. The catalogue of the University Library is created and displayed with the use of an integrated library system ALEPH.

Students can borrow 10 books for 30 days from the Loan Department with possibility to extension of lending period, or for 150 days from Didactic collection. The students of the final year and students of two faculties can borrow 20 books for 30 or 150 days, depending on the status of the item. Most students use the library via Internet by connecting with the servers outside the library. They can also use scientific literature and journals in the Periodicals Reading Room of the library. At the beginning of the academic career, every new student receives library training.

The Vice-Rector for Research and Regional Cooperation is responsible for the direct supervision of the University Library. Rector's advisory authority is the Library Board, which is comprised of representatives of Faculty Councils, Library and students. The library Director submits an objective and financial project plan of the library and is responsible for its completion after the validation.

## **8.2 COMMENTS**

Resources of University Library appear to be satisfactory. Students have broad access to textbooks as well as to on line journals.

## **8.3 SUGGESTIONS**

Wi-Fi connection should be available throughout the Campus.

## Chapter 9

### STUDENT ADMISSION AND ENROLMENT

*written by Prof. dr. hab. Jerzy Jaroszewski*

#### 9.1 UNDERGRADUATE COURSES

##### 9.1.1 UNDERGRADUATE STUDENT NUMBERS

*Table 9.1 asks for numbers of undergraduate students in the veterinary training institution. This means students enrolled for undergraduate training and paying the corresponding tuition fees (if applicable), except for those students who do not participate in the teaching offered. Some veterinary curricula require students to successfully complete all courses presented in an academic year before they can start the subjects in the following year. In other establishments students have to complete all the subjects in the curriculum before graduating, but can do so in a more flexible way. In the latter instance, it may be difficult – perhaps impossible – to place some of the students in a specific year of the programme.*

*If this is so, table 9.1 may: be omitted, or be an approximate figure, or be calculated by reference to the course of year that corresponds to the largest number of subjects taken.*

*In any case, please indicate the minimum no of years (MNY) allowed to successfully complete the curriculum.*

**MNY : 5.5 years**

Table 9.1: Undergraduate students composition in the year prior to visitation

	Total number of undergraduate students	992*
	Total number of male students	338
	Total number of female students	653
	Foreign students - from EU countries	1
	- from non-EU countries	-

\* total number of veterinary students on day 30/10/2011.

##### 9.1.2 STUDENT ADMISSION

*State the minimum admission requirements.*

The admission requirements are regulated by the national (the Higher Education Act of July 27, 2005 and its amendment of March 18, 2011) and UWM regulations (the Study Regulation of the UWM, accepted by the UWM Senate Resolution of July 30, 2006 and its amendments of May 09, 2008 and January 30, 2009). The national regulation states that the admission is based on the competition of the high-school final exam called “Matura”. The UWM regulation states that candidates for students of veterinary medicine are admitted on the basis of examinations from three subjects: foreign language, biology and chemistry or mathematics or physics. Results of the exams from best three subjects are expressed as a percentage of total possible points. These percentages are converted into “University points” as determined by the UWM Senate Resolution and the ranking list is prepared. The Faculty Admission Committee determines the minimum number of points necessary for admission.

Candidates with Polish citizenship who hold a certificate of high school abroad which is incomparable to Polish High School Diplomas have to pass an exam in biology and chemistry in front of the Selection Committee.

Foreigners can apply for the full-time study if they have appropriate certified knowledge of Polish language and if they have legalized certificates or documents obtained abroad equivalent to the Polish Matura.

Moreover, they should have the confirmation of validation of Matura exam issued by the Department of Education suitable for the place of living. The validation is not necessary, if a candidate has a diploma of the International Matura or European Matura (Regulation of the MSHE of December 12, 2006).

Candidates who are not citizens of the EU (if they have appropriate knowledge of Polish language stated by a suitable certificate) can apply for the place at the University without recruitment procedures by means of payment. To get this, they should submit application form within a suitable period for a place at the FVM directly to the Rector's office of the UWM in Olsztyn. Starting the study on the FVM, they should pay annually not less than € 4 000. During the last decade no students from outside the EU have started studying at our Faculty (probably because of the language barrier).

The candidates apply for the studies in all Faculties of the UWM electronically, via the Internet. Candidate admission is possible only after logging into UWM portal and paying an entrance fee, established by the Rector (80PLN, ca € 20 in 2011). The candidates have to log in before the deadline. Thereafter, a ranking list is prepared and the candidates have to submit all documents needed (entrance application, Matura certificate or its copy, secondary school certificate, three photos and the copy of ID). The admitting procedure is finished when the limit of places has been completed. The admission requirements regulated by the Higher Education Act allows applying for many Faculties, therefore, even the candidates declare intention to start the study by submitting all required documents, some of them do not do that. In 2011 it was 29 candidates.

*Indicate whether there is a limit to the number of students admitted each year.*

According to the Higher Education Act and the Study Regulation of the UWM, one year before the academic year starts, the UWM Senate makes up a decision about the number of places in every study disciplines based on the proposals of the FCs. In 2008-2010, the admission limit for the students of veterinary medicine was 208.

*Describe how the number of government-funded student places is determined.*

The full-time studies are free of charge for the UE citizens.

*Outline any selection process (or criteria) used in addition to the minimum admission requirements.*

Candidates for students of the FVM must have High School Diplomas. There are no more criteria for the selection process in addition to the minimum admission requirements.

*Describe whether students applying for and/or starting veterinary training have an equal or very variable knowledge base in scientific disciplines from their previous studies.*

Students starting their veterinary training are usually freshly graduated from high schools and they have a good knowledge base in scientific disciplines.

*Describe any circumstances under which extra students may be admitted to the undergraduate veterinary course.*

There are no special circumstances of extra students admission to the undergraduate veterinary course.

*Outline any changes foreseen in the number of students admitted annually. If applicable, describe how the Faculty plans to adjust to these changes.*

The Faculty authorities try to reduce the number of students. Therefore, since year 2012 the admission limit will be 192.

*Table 9.2 asks for the numbers of undergraduate students admitted to the Faculty over the last five years. Apart from the 'standard' intake, the Faculty may also be taking in students as transfers from other courses, privately funded students, etc. Please indicate any supplementary intake of this kind in the last column of the table.*

Table 9.2: Intake of veterinary students in the five past years.

Year	Number applying for admission	Number admitted	
		"standard" intake	Other entry mode (describe)*
2011	884	179	-
2010	1056	184	2
2009	1067	191	1
2008	1136	202	-
2007	1246	205	-
Average	1077.8	192.2	0.6

\*Candidates who passed an entrance exam in front of the Selection Committee.

### 9.1.3 STUDENT FLOW

*Table 9.3 establishes to what extent students make progress in their studies. To this end, we look at the students who were admitted initially and which year they have reached after the MNY (see page 63) has elapsed.*

*Describe the requirements (in terms of completing subjects and examinations) for progression to a subsequent year of the course.*

*Describe the academic circumstances under which the Faculty would oblige students to leave the course.*

Table 9.3: Student flow and total number of undergraduate veterinary students.

Number of students present after admitted year 1		Number of additionally admitted students
1st year	179	-
2nd year	178	-
3rd year	165	1 <sup>1</sup>
4th year	155	-
5th year	147	-
6th year	167	-
Number undergraduate veterinary students		992

<sup>1</sup> moved from the FVM Warsaw University of Life Sciences.

The requirements for progression to a subsequent academic year of the course are regulated by the Study Regulation of the UWM. According to this regulation, all subjects should be completed and all examinations passed for progression to a subsequent year of the course. In some individual cases, it is possible to progress conditionally, without completing a non-obligatory subject; maximum two. This/these subject/s has/have to be completed within the next academic year.

The pass mark for the semester is to get the number of ECTS points within the range from 27 to 33. In order to obtain credit of the academic year, minimum of 60 ECTS should be gained.

Table 9.4: Number of students graduating annually over the past five years

Number of students graduating annually over the past five years	
Year	Number graduating
2011	172
2010	156
2009	151
2008	141
2007	144
Average	153

Table 9.5: Average duration of studies (distribution of students in years).

Duration of attendance		number
Years - 0	2005-2011	118
Years -1	2004-2011	30
Years -2	2003-2011	15
Years -3	2002-2011	4
Years -4	2001-2011	3
Years -5	2000-2011	-
Years > 5	1999-2011	2

## 9.2 COMMENTS

*Comment on standard of the students starting the course.*

A strong interest in studying veterinary medicine causes that our students are selected from the top of high school graduates (almost similarly as students of human medicine), and they have a high intellectual potential. However, such admission system also causes that

students are mainly from large cities and previously had little contact with farm animals.

*Comment on the ability of the Faculty to satisfactorily decide the number of students it can accept.*

The FC has an influence on the number of students admitted every year. However, the governmental founding system, directly dependent on the number of students, causes that there is a big pressure from the Rector to keep a high admission limit.

*Comment on the factors that determine the number of students admitted.*

The number of admitted students depends on the ability of the Faculty to provide a high quality teaching and is limited by the number of the academic staff and available facilities.

*Comment on the adequacy of the facilities and teaching programme to train the existing number of students.*

As it was suggested previously, in May 2011, the FC, on the request of Faculty authorities, reduced the admission limit to improve adequacy of the facilities and teaching programme to train the students.

*Comment on the progress made by students in their studies, and the Faculty's ability to ensure that satisfactory progress is maintained.*

Approximately 60% of the students admitted in year 1 complete their studies on time. The students who do not make satisfactory progression either resign or change the Faculty (approximately 20%). In some cases, students who had to leave may re-enter the studies (if they previously passed at least one year) and the Vice-Dean for Study determines conditions of such re-entry.

*Comment on the percentage of students that will eventually graduate.*

Approximately 75-80% of the students admitted will eventually graduate.

### **9.3 SUGGESTIONS**

*If you are not satisfied with the situation, please state in order of importance any suggestions that you may have concerning this Chapter if you feel unhappy about:*

*The number of students admitted;*

*The drop-out percentage and reasons, if known*

*The average duration of studies;*

*Other aspects.*

The number of students enrolled for the first year should be decreased to ensure good quality standard education, however, it needs an increase in government funding. Moreover, the national regulations should be changed and the limit of four Faculties should be hold.

# CHAPTER 10

## ACADEMIC AND SUPPORT STAFF

*written by Prof. dr. hab. Sławomir Zduńczyk*

### 10.1 FACTUAL INFORMATION

Table 10.1: Personnel in the establishment provided for veterinary training.

	Budgeted posts (FTE)		Non budgeted posts (FTE)		Total (FTE)	
1. Academic staff	VS	NVS	VS	NVS	VS	NVS
Teaching staff (FTE)	119	5			119	5
Research staff (FTE)						
Others (please specify) (FTE)						
Total FTE	119	5			119	5
Total FTE (VS+NVS)	124				124	
FTE providing last year teaching	40				40	
2. Support staff						
a) responsible for care and treatment of animals	4				4	
b) responsible for the preparation of practical and clinical teaching	38				38	
c) responsible for administration, general service, maintenance, etc.	5				5	
d) engaged in research work only						
e) others (please specify)						
Total support staff	47				47	
3. Total staff	171				171	

Table 10.2: Allocation of academic (veterinary surgeon and non veterinary surgeon) teaching staff expressed as FTE and support staff to the various departments.

Department name	Academic teaching staff										Support Staff (see table 10.1)		
	Full prof.		Associate prof.		Assistant prof.		Assistant		Other <sup>1)</sup>		Technical	Animal Care	Admin.
	VS <sup>2)</sup>	NVS <sup>3)</sup>	VS <sup>2)</sup>	NVS <sup>3)</sup>	VS <sup>2)</sup>	NVS <sup>3)</sup>	VS <sup>2)</sup>	NVS <sup>3)</sup>	VS <sup>2)</sup>	NVS <sup>3)</sup>			
Department of Pathological Anatomy	<b>1</b>				<b>2</b>		<b>1</b>		<b>1<sup>b</sup></b>		<b>2</b>		
Department of Animal Anatomy	<b>2</b>		<b>1</b>		<b>5</b>		<b>1</b>		<b>1<sup>a</sup></b>	<b>1<sup>b</sup></b>	<b>4</b>		
Department of Surgery and Radiology with Clinic	<b>1</b>		<b>1</b>		<b>3</b>		<b>0.5</b>		<b>1<sup>a</sup></b> <b>3<sup>b</sup></b>	<b>1<sup>a</sup></b>	<b>2</b>	<b>1</b>	

Department of Avian Diseases	1				1		1				3	1	
Department of Internal Medicine with Clinic			2		4		2.5		5 <sup>b</sup>		2	1	
Department of Epizootiology	1		2		4	1			2 <sup>b</sup>		3		
Department of Pharmacology and Toxicology	1				3				1 <sup>b</sup>		2		
Department of Clinical Physiology	1				1		2		1 <sup>b</sup>		2		
Department of Histology and Embryology	1	1			1				1 <sup>b</sup>		2		
Department of Microbiology and Clinical Immunology	1			1	2						2		
Department of Parasitology and Invasive Diseases			2				1				1		
Department of Veterinary Prevention and Feed Hygiene	1		1		5				1 <sup>b</sup>		2		
Department of Veterinary Protection of Public Health	3				4		1		3 <sup>b</sup>		3		
Department of Pathophysiology, Veterinary Forensic Medicine and Administration	2		1		2				2 <sup>b</sup>		2		
Department of Animal Reproduction with Clinic	3				2		3		2 <sup>a</sup> 4 <sup>b</sup>		4	1	
Department of Clinical Diagnostics	1		1		2				4 <sup>b</sup>		1		
Polyclinic											1		1
Dean's office													4
<b>Total</b>	<b>20</b>	<b>1</b>	<b>11</b>	<b>1</b>	<b>41</b>	<b>1</b>	<b>13</b>		<b>34</b>	<b>2</b>	<b>38</b>	<b>4</b>	<b>5</b>

<sup>1)</sup> please specify; <sup>2)</sup> veterinary surgeon; <sup>3)</sup> non veterinary surgeon; <sup>a)</sup> lecturer; <sup>b)</sup> PhD student

PhD students are included in the staff numbers because they are obligated to perform regular teaching activities for 37.5% of their workload.

Students of Veterinary Medicine have also classes with teachers from the Faculty of Bioengineering (Biochemistry, Animal Breeding and Husbandry), Faculty of Environmental Management and Agriculture (Chemistry, Biophysics), Faculty of Social Science and Faculty of Humanities (humanistic subject) as well as from intercollegiate departments (foreign languages, Physical Education). On the basis of hour calculations it gives 15 positions. These persons are not included in the staff numbers.

Porters and housekeepers are administered centrally by the university and are also not included.

Table 10.3 Ratios students/staff

<b>R 1:</b>	No. total academic FTE in veterinary training <sup>3)</sup> No. undergraduate veterinary students <sup>2)</sup>	=	$\frac{124}{992}$	=	$\frac{1}{8.0}$	Denominator : 8.0
<b>R 2:</b> <sup>1)</sup>	No. of total FTE at Faculty <sup>3)</sup> No. undergraduate students at Faculty	=	$\frac{\quad}{\quad}$	=	$\frac{1}{\quad}$	Denominator
<b>R 3:</b>	No. total VS FTE in veterinary training <sup>3)</sup> No. undergraduate veterinary students <sup>2)</sup>	=	$\frac{119}{992}$	=	$\frac{1}{8.34}$	Denominator : 8.34
<b>R 4:</b>	No. total VS FTE in veterinary training <sup>3)</sup> No. students graduating annually <sup>4)</sup>	=	$\frac{119}{153}$	=	$\frac{1}{1.28}$	Denominator : 1.28
<b>R 5:</b>	No. total FTE academic staff in veterinary training <sup>3)</sup> No. total FTE support staff in veterinary training <sup>3)</sup>	=	$\frac{124}{47}$	=	$\frac{1}{0.38}$	Denominator : 0.38

1) applies only to these Faculties, which offer additional courses to the veterinary curriculum,

<sup>2)</sup>Table 9.3; <sup>3)</sup>Table 10.1; <sup>4)</sup>Table 9.4

*Outline how the allocation of staff to the Faculty is determined.*

*Outline how the allocation of staff to the departments (or other units) within the Faculty is determined.*

*Indicate whether there are difficulties in recruiting or retaining staff.*

*Describe (if appropriate) any relevant trends or changes in staff levels or the ability to fill vacancies over the past decade.*

*Indicate whether it is easy to employ additional staff from service income (e.g. from revenues of clinical or diagnostic work).*

*Describe the regulations governing outside work, including consultation and private practice, by staff working at the establishment.*

*Describe the possibilities and financial provisions for the academic staff to:*

*a) attend scientific meetings;*

*b) go on a sabbatical leave.*

The employing of university teachers is regulated by the Higher Education Act of July 27, 2005 (with some changes made later on), the Regulation of the Minister of Science and Higher Education, and the Statute of the UWM in Olsztyn. In accordance with the regulations, the agreement to create a position of full-time professor, associate professor, visiting professor, assistant professor, assistant and lecturer is given by the Rector of University, on the request of the Dean of the Faculty. The candidates for the posts are chosen by means of an open contest. Open contests for all available posts are announced by the Dean of the Faculty. Allocation of staff to the departments depends in a large part on the number of hours ascribed to the subject(s) taught. Obligatory teaching hours are 210 hours/year for professor, 240/year for assistant professor and assistant, and 360 hours/year for lecturer.

The amount of posts for technical employees at the Faculty depends on the number of students and teaching hours, and is calculated by the University. In 2011, the Faculty of Veterinary Medicine exceeded the employment of technical employees by 6 posts, which are financed from the funds for the statutory research. There is also the possibility to employ additional staff from service income.

There are no difficulties in recruiting at the Faculty of Veterinary Medicine despite relatively low salary level. The Faculty graduates several PhD's every year and many of them seek positions in the department where they completed their degree.

The Higher Education Act and the Statute of the University limit possibilities of employment. The Rector must give a permission for outside teaching and research work.

There is no specific regulation governing consultation and private practice by staff working at the establishment. Due to low salary, several teachers of the Faculty have their own private practices, which, in a way, creates some competition.

The expenses of taking part in scientific meetings may be financed from the funds for the statutory research, the grants and the company sponsoring.

There is a wide offer regarding possibilities of attending scientific training outside the University financed by the MSHE, and Polish and foreign foundations (e.g. Foundation of Polish Science, Alexander von Humboldt-Foundation, Fulbright Program, British Council). Any employee going for scientific training may apply for a sabbatical leave up to 12 months.

Moreover, within Erasmus and ProEdu Programs short term visits to EU Universities are possible.

## **COMMENTS**

The number of the teaching staff and teacher/student ratio appears to be satisfactory. The number of the technical staff is too low and should be increased. The salary levels are significantly lower than in the private sector. The percentage of veterinarians in the academic staff appears to be satisfactory and they cover all clinical subjects. The percentage of NVS (4.03%) is acceptable, especially since they are involved in teaching non-clinical subjects.

## **SUGGESTIONS**

We suggest to provide more personnel to the Faculty. There is a need for additional personnel at the administrative level, particularly in institutions with clinical and diagnostic services.

## **Chapter 11**

### **CONTINUING EDUCATION**

*written by Prof. dr. hab. Jerzy Jaroszewski*

#### **11.1. FACTUAL INFORMATION**

*Please describe the role of the Faculty in providing continuing education.*

To date in Poland there is no regulation concerning the continuing education, therefore, DVM are not obligated to do this. However, continuing education is realized by organizing courses for practitioners called “specialization”. After completing the course and passing the exam (called State Examination; State Examination Commission is in Puławy, National Veterinary Research Institute), participants receive a title of “specialist.” The duration of such study depends on the kind of specialization and ranges between 3 and 6 semesters. This program covers all specialties and involves all (four) Faculties of Veterinary Medicine in Poland. There are eighteen specialties covered by the postgraduate education system:

- Animal reproduction
- Diseases of dogs and cats
- Diseases of fur animals
- Diseases of horses
- Diseases of ruminants
- Diseases of swine
- Diseases of wild living animals
- Epizootiology and veterinary administration
- Fish diseases
- Honeybee diseases
- Hygiene of slaughter animals and food of animal origin
- Laboratory animals pathology
- Laboratory diagnostics
- Poultry and pet birds diseases
- Public health protection
- Surgery
- Veterinary prophylaxis and feed hygiene
- Veterinary radiology

The Faculty has been involved in this program for many years and currently realizes specialties which are listed in Table 11.1. Moreover, the Faculty organizes many conferences, congresses and practical trainings or workshops.

Table 11.1. The specialties currently realized at the Faculty of Veterinary Medicine of the UWM in Olsztyn.

Name of specialization	Department	Head
Veterinary surgery	Department of Surgery and Radiology with Clinic	Prof. dr. hab. Zbigniew Adamiak
Diseases of horses	Department of Animal Reproduction with Clinic	Prof. dr. hab. Andrzej Raś
Diseases of dogs and cats	Department of Clinical Diagnostics	Prof. dr. hab. Andrzej Depta
Diseases of ruminants	Department of Internal Medicine with Clinic	Prof. dr. hab. Zygmunt Kuleta
Diseases of fur animals	Department of Epizootiology	Dr. hab. Jan Siemionek, prof. UWM
Hygiene of slaughter animals and food of animal origin	Department of Veterinary Protection of Public Health	Prof. dr. hab. Joanna Szteyn
Veterinary prophylaxis and feed hygiene	Department of Veterinary Prevention and Feed Hygiene	Prof. dr. hab. Maciej Gajęcki
Animal reproduction	Department of Animal Reproduction with Clinic	Prof. dr. hab. Tomasz Janowski
Laboratory animals pathology	Department of Pathophysiology, Forensic Veterinary Medicine and Administration	Prof. dr. hab. Józef Szarek

## 11.2. COMMENTS

*Comment on the quality of the continuing education programmes in which the establishment is involved.*

*Comment on the degree of participation of veterinarians in the continuing education programmes in which the establishment is involved.*

Each teacher involved in the teaching program is evaluated by the participants. Although there is no official method of evaluation, courses offered by the Faculty seem to be of good quality as judged from the number of applicants.

Postgraduate education at present form is not obligatory, therefore, the degree of participation of veterinarians to this kind of education is limited to the people seeking the title of “specialist.”

## 11.3 SUGGESTIONS

In Poland, the regular continuing education system should be introduced as mandatory for practicing veterinary surgeons.

## Chapter 12

### POSTGRADUATE EDUCATION

written by Prof. dr. hab. Jerzy Jaroszewski

*This heading covers all further training leading to a diploma - special postgraduate studies, Ph.D. courses, research training programmes, and national or European College specialised qualifications. Please provide details of all postgraduate training opportunities in tabular form under "Factual Information".*

#### 12.1 FACTUAL INFORMATION

The FFM of the UWM in Olsztyn offers PhD Study in Veterinary Medicine. The specialization courses as a part of continuing education were described in Chapter 11.

##### 12.1.1 CLINICAL SPECIALTY TRAINING (INTERNS AND RESIDENTS)

*Indicate any programmes that are certified by the European Board of Veterinary Specializations. Indicate whether students involved in this training receive a grant or a salary. Indicate any programmes that are certified by the European Board of Veterinary Specializations.*

No residency or internship programs certified by the European Specialty College exist at the FVM UWM in Olsztyn

##### 12.1.2 RESEARCH EDUCATION PROGRAMMES

In Poland, the organization of the PhD Study (Doctoral studies) as the full-time third degree study is regulated by the national (Higher Education Act of July 27, 2005 and its amendment of March 18, 2011) and the UWM regulation (UWM Senate Resolution No. 412 of 14 May, 2010). According to these regulations, PhD students are obligated to: a) complete the third degree study curriculum (see Annex III), b) participate in teaching of undergraduate students (90 hours per academic year) and c) prepare PhD thesis. The PhD students are allocated into the Departments, where they perform experiments for PhD thesis. Only candidates who graduated from veterinary medicine, human medicine, pharmacy or biotechnology faculties can apply for Doctoral studies. The number of places for Doctoral studies at each Faculty is determined by the UWM Senate.

Table 12.1.1. Total number of research students enrolled in PhD Study.

Type of degree	Full-time	Part-time	Duration
PhD	39	-	4 years*

\* in some cases it can be extended to 5 years

Table 12.1.2. Number of PhD students on selected years.

	Year				
	first	second	third	fourth	fifth
Total number	12	8	10	3	6
Non veterinarians	1	1	1	-	-
Without scholarship	4	-	-	-	-

*Please indicate-when and were and whether the students require a grant or a salary.*

The participants in PhD Study in Veterinary Medicine can apply to the UWM for financial support (doctoral scholarship) and a special scholarship for outstanding, active in science persons. Moreover, they can apply for grants founded by the MSHE.

## 12.2 COMMENTS

*Comment on the number of postgraduate diplomas/titles awarded annually.*

In our opinion, the number of titles awarded annually in research education program is too low. The Faculty has great potential in education at the PhD level and larger groups of graduates could be admitted. However, the most important factor limiting this kind of activity is the University limit of admission and relatively low level of funds coming from the University in the form of scholarships.

*Comment on the percentage of veterinarians participating in postgraduate research training programmes*

All doctoral students in the clinical fields, and almost all in the basic sciences possess a veterinary education (see Table 12.1.2).

## 12.3 SUGGESTIONS

In the nearest future, the Faculty should establish a clinical specialty training.

## Chapter 13

### RESEARCH

written by Prof. dr. hab. Sławomir Zduńczyk

#### 13.1 FACTUAL INFORMATION

*Indicate the involvement of undergraduate students in research, including the time spent, percentage of students involved and outcome required.*

*The details requested under this heading relate only to research experience offered to students during their undergraduate training, for example through project work.*

According to Polish law regulations, no Diploma theses are necessary for undergraduate students, but they have the opportunity to participate in research projects within the framework of Veterinary Medicine Students' Research Circles. At present, the following circles are active at the Faculty:

1. Students' Research Circle for Animal Anatomy
2. Students' Research Circle for Animal Reproduction
3. Students' Research Circle for Pharmacology
4. Students' Research Circle for Clinical Physiology
5. Students' Research Circle for Histology
6. Students' Research Circles for Internal Diseases
7. Students' Research Circles for Veterinary Forensic

The supervisors are usually researchers with the professor title.

Some students help also in research projects of the Departments as volunteer outside Students' Research Circles. About 10% of all undergraduate students are involved in research activities. The research topic of the student work is convergent with the research issue of the Department to which the Students' Circle is affiliated. The students make a study plan, collect samples, analyze them and write a report. The results of students' research were presented at the International Conferences of Students' Research Circles or Scientific Conferences and published in Proceedings. Some results were also published in scientific journals. The presentations of our students were often awarded with prizes and distinctions.

#### Publications of students in the past three years

1. Burliński, P., Kroll, A., Janiszewski, P. (2009): Endoparasitic invasions in red deer from chosen areas of north Poland – a preliminary data. International Conference of Students' Research Circles, Belarus, Grodno, 13-15.05.2009.
2. Fedorowska, N. (2009): Galanin expression during development of the zebrafish (*Danio rerio*) (Polish). XXXVIII International Conference of Students' Research Circles, Olsztyn, 8-9.05.2009.
3. Gonkowski, S., Kamińska, B., Burliński, P., Kroll, A., Całka, J. (2009): The influence of drug-resistant ulcerative colitis on the number of cocaine- and amphetamine-regulated transcript peptide-like immunoreactive (CART-LI) mucosal nerve fibres of the descending colon in children, *Przegląd Gastroenter.* 4 (3), 147-151.

4. Kaleczyc, J., Pidsudko, Z., Pytlos, A., Nakielski, A., Sienkiewicz, W., Łakomy, M. (2009): Distribution and chemical coding of neurons in the celiac-superior mesenteric ganglion complex supplying the pancreas in the pig. Anatomische Gesellschaft, Antwerpia, 27-30.03.2009.
5. Kapanajko, J., Nieradko, P. (2009): Immunohistochemical properties of neurons in the porcine geniculate ganglion (Polish). XXXVIII International Conference of Students' Research Circles, Olsztyn, 8-9.05.2009.
6. Kortas, D., Szarek, A., Wtulich, A., Jojko, Sz., Domosławska, A., Jurczak, A. (2011): Monitoring and treatment of benign prostatic hyperplasia (BPH) in dogs using GnRH agonist implant Suprelorin: preliminary results (Polish). XL International Conference of Students' Research Circles, Olsztyn, 6-8.05.2011.
7. Koziół, E.A., Zdanowicz, M. (2011): Pharmacokinetics of meloxicam administered alone and in combination with amoxicillin in cattle (Polish). XL International Conference of Students' Research Circles, Olsztyn, 6-8.05.2011.
8. Lewczuk, B., Szczepaniak, N., Palkowska, K., Petryński, W., Przybylska-Gornowicz, B. (2011): Ultrastructure of mucous superficial epithelium in the stomach of the European beaver (*Castor fiber*) (Polish). XVI Symposium of the Polish Society for Histochemistry and Cytochemistry, Lublin, 2011.
9. Lewczuk, B., Ziółkowska, N., Petryński, W., Palkowska, K., Przybylska-Gornowicz B. (2011): European beaver as a fascinating object of morphological studies. I. Specific features of the stomach (Polish). Seminar on Conflicts between the beaver and agriculture and forestry. How to develop preventive activities and the damage compensation system and increase the social acceptance of the species conservation? 20.10.2011 Malinówka.
10. Nakielski, A., Pytlos, A. (2009): Distribution and chemical coding of neurons in the coeliac-superior mesenteric ganglion complex supplying the porcine pancreas. XXXVIII International Conference of Students' Research Circles, Olsztyn, 8-9.05.2009.
11. Nakielski, A., Pytlos, A. (2010): Distribution and chemical coding of neurons in the dorsal root ganglia supplying the porcine pancreas. XXXIX International Conference of Students' Research Circles, Olsztyn, 12-13.05.2010.
12. Nieradko, P., Kapanajko, J. (2009): Immunohistochemical properties of neurons in the sensory ganglion of the trigeminal nerve supplying the tongue in the pig (Polish). XXXVIII International Conference of Students' Research Circles, Olsztyn, 8-9.05.2009.
13. Nieradko, P., Kapanajko, J. (2010): Sources of sensory innervation of circumvallate and foliate papillae of the porcine tongue. XXXIX International Conference of Students' Research Circles, Olsztyn, 12-13.05.2010.
14. Nieradko, P., Kapanajko, J. (2011): Immunohistochemical properties of neurons in the porcine jugular ganglion. XL International Conference of Students' Research Circles, Olsztyn, 6-8.05.2011.
15. Nieradko, P., Kapanajko, J., Sienkiewicz, W., Kaleczyc, J. (2011): Immunohistochemical features of neurons in the porcine proximal ganglion of the vagus nerve (Polish). XXX Conference of Polish Anatomical Society, Kraków, 23-24.09.2011.
16. Niezgorska, A., Gańko, M. (2011): Chemical coding of the dorsal vagal neurons supplying prepyloric region of the porcine stomach. XL International Conference of Students' Research Circles, Olsztyn, 6-8.05.2011.
17. Palkowska, K. (2009): Histological structure of the stomach in the European Beaver (*Castor fiber*) (Polish). XXXVIII International Conference of Students' Research Circles, Olsztyn, 8-9.05.2009.
18. Palkowska, K., Lewczuk, B., Prusik, M., Przybylska-Gornowicz, B. (2009): Histology of the gaster of the European beaver (*Castor fiber*). XLII Symposium of the Polish Society for

Histochemistry and Cytochemistry, Bydgoszcz, 2009 (Medical and Biological Sciences, 2009, 23, 2, 56).

19. Palkowska, K., Petryński, W., Szczepaniak-Trzaska, N. (2011): Ultrastructure of the tunica mucosa in the stomach of the European Beaver (*Castor fiber*). I. Cells of gastric glands (Polish). XL International Conference of Students' Research Circles, Olsztyn, 6-8.05.2011.
20. Petryński, W., Palkowska, K. (2010): Histological structure of the stomach in the European Beaver (*Castor fiber*) (Polish). XV International Conference of Students Scientific Associations, Wrocław, 13-14.05.2010.
21. Petryński, W. (2010): Paracrystalline structures in pinealocytes of the common gull (*Larus canus*) (Polish). XXXIX International Conference of Students' Research Circles, Olsztyn, 12-13.05.2010.
22. Sidelnikow, Sz., Skobowiat, C., Całka, J. (2009): Distribution of the vasoactive intestinal peptide (VIP) and somatostatin (SOM) in lumbo-sacral ganglia of the porcine sympathetic trunk (Polish). XXXVIII International Conference of Students' Research Circles, Olsztyn, 8-9.05.2009.
23. Szczepaniak, N., Lewczuk, B., Palkowska, K., Petryński, W., Przybylska-Gornowicz, B. (2011): Ultrastructure of gastric glands in the stomach of the European beaver (*Castor fiber*). (Polish) XVI Symposium of the Polish Society for Histochemistry and Cytochemistry, Lublin, 2011.
24. Zagnieńska, A. (2011): Distribution and chemical coding of neurons in the caudal mesenteric ganglion supplying the porcine urinary bladder apex. XL International Conference of Students' Research Circles, Olsztyn, 6-8.05.2011.

The activity in Students' Research Circle is often the first step in the students' research career. After graduation, such students apply for PhD fellowships.

### 13.2 COMMENTS

*Comment on the opportunities for students to participate in active research work.*

Since for undergraduate students, no Diploma thesis is necessary, their involvement in research is on voluntary basis (activity in the Veterinary Medicine Students' Research Circle). The participation in the research projects is unlimited and everyone who wishes to improve his or her scientific knowledge is welcome. Students' involvement in all aspects of scientific activities is not always possible because they have to participate mainly in their didactic duties.

### 13.3 SUGGESTIONS

*Will students be given more opportunity to participate in research activities?  
If so, how will this be done?*

The Faculty should put more effort to involving undergraduates in research activities. The students willing to improve their scientific knowledge should be chosen during teaching. Individual tuition for students involved in research should be introduced.

## Annex I

The exact yearly curriculum taken by each student.

Semester 1					
Subject	Lectures	Supervised training	Total	Examination	ECTS
Animal Anatomy	45	60	105	pass	9
Histology and Embryology	15	30	45	pass	4
Cell Biology	15	15	30	pass	3
Biology	30	30	60	exam	6
Information Technology	5	25	30	pass	2
Biophysics	10	20	30	exam	2
Latin Language	-	30	30	pass	2
Chemistry	15	15	30	exam	2
Work Safety	4	-	-	pass	0
<i>Total</i>	139	225	364	-	30

Semester 2					
Subject	Lectures	Supervised training	Total	Examination	ECTS
Animal Anatomy	45	60	105	exam	10
Histology and Embryology	20	40	60	exam	6
Biochemistry	30	30	60	pass	5
General and Veterinary Genetics	30	30	60	exam	3
Environmental Protection	15	15	30	pass	2
Biostatistics and Methods of Documentation	10	20	30	pass	2
History of Veterinary and Deontology	15	-	15	pass	1
Agronomy	15	-	15	pass	1
<i>Total</i>	185	195	375	-	30

Semester 3					
Subject	Lectures	Supervised training	Total	Examination	ECTS
Biochemistry	30	45	75	exam	7
Animal Physiology	30	45	75	pass	7
Animal Breeding and Husbandry	15	30	45	exam	3
Technologies in Animal Production	15	15	30	pass	2
Veterinary Economics	15	-	15	pass	1
Microbiology	30	30	60	pass	6
Foreign language	-	60	60	pass	2
Humanistic subjects	30	-	30	pass	2
Etiquette	4	-	4	pass	0
<i>Total</i>	169	225	394	-	30

Semester 4					
Subject	Lectures	Supervised training	Total	Examination	ECTS
Animal Physiology	30	30	60	exam	4
Microbiology	30	45	75	exam	6
Ethology and Animal Welfare	30	-	30	pass	2
Immunology	30	15	45	exam	3
Animal Nutrition and Feedstuffs	30	45	75	exam	5

Topographical Anatomy	15	30	45	pass	3
Foreign language	-	60	60	pass	2
Humanistic subjects	60	-	60	pass	4
Physical education	-	30	30	pass	1
Ergonomics	2	-	2	pass	0
Protection of Intellectual Property	2	-	2	pass	0
Breeding practice <sup>1</sup>	-	60*	80	pass	1
<i>Total</i>	229	315	564	-	31

<sup>1</sup>Breeding practice is realised during summer vacation and is not directly supervised by academic teacher.

Semester 5					
Subject	Lectures	Supervised training	Total	Examination	ECTS
Pathophysiology	60	45	105	exam	8
Veterinary Pharmacology	30	30	60	pass	5
Pharmacy	9	16	25	pass	2
Parasitology and Invasiology	30	30	60	pass	4
Pathomorphology	30	45	75	pass	5
Clinical and Laboratory Diagnostics	30	45	75	pass	5
Physical education	-	30	30	pass	1
<i>Total</i>	189	241	430	-	30

Semester 6					
Subject	Lectures	Supervised training	Total	Examination	ECTS
Pathomorphology	45	75	120	exam	8
Veterinary Pharmacology	30	30	60	pass	4
Clinical and Laboratory Diagnostics	15	30	45	exam	3
General Surgery and Anesthesiology	15	30	45	pass	3
Diagnostic Imaging	18	35	53	pass	4
Public Health in Protection in the Situations of Hazard	15	15	30	pass	2
Parasitology and Invasiology	15	30	45	exam	4
Veterinary Epidemiology	15	15	30	pass	2
<i>Total</i>	168	260	428	-	30

Semester 7					
Subject	Lectures	Supervised training	Total	Examination	ECTS
Internal Diseases of Farm Animals	30	30	60	pass	4
Surgery of Farm Animals	15	30	45	pass	3
Infectious Diseases of Farm Animals	23	30	53	pass	3
Reproduction and Obstetrics of Farm Animals	30	45	75	pass	5
Hygiene of Slaughter Animals and Meat	30	30	60	pass	4
Feed Hygiene	30	30	60	exam	4
Veterinary Toxicology	30	45	75	exam	5
Forensic Veterinary Medicine	15	15	30	pass	2
<i>Total</i>	203	255	458	-	30

Semester 8					
Subject	Lectures	Supervised training	Total	Examination	ECTS
Internal Diseases of Farm Animals	10	20	30	pass	2
Infectious Diseases of Farm Animals	13	24	37	pass	2
Reproduction and Obstetrics of Farm Animals	20	20	40	pass	2
Internal Diseases of Horses	20	40	60	pass	4
Surgery of Horses	20	40	60	pass	4
Infectious Diseases of Horses	10	20	30	pass	2
Reproduction and Obstetrics of Horses	25	35	60	pass	4
Andrology and Artificial Insemination	15	30	45	pass	3
Hygiene of Slaughter Animals and Meat	15	45	60	exam	3
Milk Hygiene	15	30	45	exam	3
Fish Diseases	15	15	30	pass	2
Zoonoses	15	-	15	pass	1
Clinical practice <sup>1</sup>	-	160	160	pass	4
Veterinary inspection practice <sup>1</sup>		80	80	pass	3
<i>Total</i>	193	559	752	-	39

<sup>1</sup>Clinical practice and Veterinary inspection practice are realised during summer vacation and are not directly supervised by academic teachers.

Semester 9					
Subject	Lectures	Supervised training	Total	Examination	ECTS
Internal Diseases of Dogs and Cats	30	45	75	pass	5
Surgery of Dogs and Cats	25	35	60	pass	4
Infectious Diseases of Dogs and Cats	15	30	45	pass	3
Reproduction and Obstetrics of Dogs and Cats	30	30	60	pass	4
Diseases of Poultry	30	45	75	pass	6
Hygiene of Animal Origin Products	30	45	75	pass	5
Administration and Veterinary Legislation	30	15	45	pass	3
Veterinary Dietetics	15	15	30	pass	2
Fur Animal Diseases	15	15	30	pass	2
<i>Total</i>	220	275	495	-	34

Semester 10					
Subject	Lectures	Supervised training	Total	Examination	ECTS
Veterinary Prevention	30	60	90	exam	7
Hygiene of Animal Origin Products	15	45	60	exam	5
Diseases of Poultry	30	30	60	exam	5
Diseases of Beneficial Insects	15	15	30	pass	2
Electives <sup>1</sup>	15	15	30	pass	3
Clinical rotation - Diseases of Poultry	-	30	30	pass	2

Clinical rotation – Diseases of Farm Animals	-	45	45	pass	2
Clinical rotation – Diseases of Horses	-	45	45	pass	2
Clinical rotation – Diseases of Dogs and Cats	-	45	45	pass	2
Clinical practice <sup>2</sup>	-	160	160	pass	4
Veterinary inspection practice <sup>2</sup>	-	80	80	pass	3
<i>Total</i>	105	570	675	-	37

<sup>1</sup>Some electives are more theoretical and some of them are more practical, therefore in the table average distribution between lectures and supervised training is presented.

<sup>2</sup>Clinical practice and Veterinary inspection practice are realised during summer vacation and are not directly supervised by academic teachers.

Semester 11					
Subject	Lectures	Supervised training	Total	Examination	ECTS
Electives <sup>1</sup>	30	30	60	pass	6
Clinical rotation – Diseases of Farm Animals	-	45	45	exam	6
Clinical rotation – Diseases of Horses	-	45	45	exam	6
Clinical rotation – Diseases Dogs and Cats	-	45	45	exam	6
<i>Total</i>	30	165	195	-	24

<sup>1</sup>Some electives are more theoretical and some of them are more practical, therefore in the table average distribution between lectures and supervised training is presented.

## Annex II

Learning outcomes for the course of veterinary medicine in relation to: knowledge, skills and social competencies.

No.	KNOWLEDGE
	The student:
1	Knows and can describe normal structures of an animal body: cells, tissues, organs and body systems
2	Knows the structure and describes and explains the functions of particular animal body systems: respiratory, circulatory, urinary, nervous, musculoskeletal, reproductive, hormonal and immune
3	Describes and interprets the development of particular organs and whole body in relation to adult body
4	Knows and explains metabolic processes at molecular, cell, and whole-body levels.
4	Knows and explains the phenomenon of homeostasis, neurohormonal regulation, reproduction, ageing and death
6	Describes, explains and interprets principles and mechanisms underlying health, pathogenesis of diseases, and their therapy in animals
7	Knows and interprets: <ul style="list-style-type: none"> <li>- pathophysiological changes in organs and body systems</li> <li>- pharmacological and biological mechanisms (including immunological ones) responsible for recovery from diseases</li> </ul>
8	Identifies and describes the biology of infectious agents causing infectious diseases and anthroponoses, taking into account mechanisms for infectious disease spread and host defence mechanisms against infection
9	Knows and defines principles and processes of inheritance Recognizes genetic disorders and knows principles of genetic engineering
10	Defines and describes mechanisms of action of particular groups of drugs and their individual stages of drug transformation in the body and interactions
11	Knows principles of antibiotic therapy
12	Can write prescriptions for particular groups of medicines
13	Can use Polish and Latin medical terminology
14	Is able to use a modern foreign language at a level which enables him/her to communicate with specialists in veterinary medicine and related disciplines, and uses professional literature in foreign language
15	Describes, explains and interprets disorders at cell, tissue, organ and body systems levels during disease
16	Describes, explains and interprets pathological mechanism of parts/organs/systems in the animal body
17	Describes and interprets: <ul style="list-style-type: none"> <li>- causes, symptoms and signs of diseases</li> <li>- anatomopathological changes</li> </ul> Knows principles for the treatment and prevention of particular diseases
18	Implements the principles of diagnostics (including differential diagnostics) and therapeutic procedures
19	Performs patient's clinical examination and monitors animal health in large-scale farming
20	Uses appropriate procedures in case of detection of notifiable diseases
21	Records, analyses and correctly interprets the clinical data and results of laboratory

	tests and additional clinical trials
22	Indicates and interprets the law regulations. Knows the rules for the judgments and prepares expert's opinion for court and national, local and professional government bodies
23	Knows rules of the functioning of national veterinary services also in the aspect of the of public health protection
24	Describes the breeds within particular animal species and explains the rules of the breeding and raising of animals
25	Describes the principles of the choice of animals for mating and the methods of reproduction and selection in animals
26	Describes the principles of animal nutrition (taking into account species differences) Prepares and analyses of feed rations
27	Describes and evaluates conditions providing animal welfare
28	Describes and interprets the principles of economic production
29	Describes ways of management and utilization of by-products and waste from meat industry
30	Describes and interprets the principles of the protection of the health of consumers by appropriate veterinary supervision on animal food production
31	Describes, interprets and evaluates conditions of hygiene and technology of production and safety of food products. Uses legal acts regulating veterinary supervision
32	Carries out ante and post-mortem meat inspection
33	Describes and implements the HACCP ( <i>Hazard Analysis and Critical Control Points</i> ) procedures
<b>SKILLS</b>	
The student:	
1	Communicates effectively with clients, professional colleagues, as well as with the officers of appropriate control offices and national and local government bodies
2	Is able to listen effectively and respond sympathetically to them, using language in a form appropriate to the audience and the context
3	Prepare comprehensive case reports and keep patients' records in an appropriate form, which is satisfactory to colleagues and understandable by the animal owners
4	Works effectively as a member of a multi-disciplinary team
5	Is aware of the ethical responsibilities of the veterinarian in relation to individual animal care and client relations, and also more generally in the community in relation to their possible impact on the environment and society as a whole
6	Is able to evaluate the economic and social climate in which the veterinarian operates
7	Is willing to use the professional capabilities to contribute to veterinary knowledge advancement in order to further improve the quality of animal care, animal welfare, and veterinary public health
8	Has a basic knowledge of the organization and management of a veterinary practice, including: <ul style="list-style-type: none"> <li>- awareness of one's own and the employer's responsibilities in relation to employment and health and safety legislation, and the position relating to lay staff and public liability;</li> <li>- awareness of how fees invoices are calculated, and the importance of record and book-keeping, including computer records and case reports;</li> <li>- is able to use information technology effectively to communicate, share,</li> </ul>

	<p>collect, manipulate and analyze information;</p> <ul style="list-style-type: none"> <li>- importance of complying with professional standards and the practice policies</li> </ul>
9	Understand the need and professional obligation for a commitment to continuing education and training, and professional development, throughout one's professional life
10	Is able to adapt his/her job offer according to the changes in the job market situation
11	Is aware of personal limitations, and demonstrate awareness of when and from where to seek professional advice, assistance and support
12	Can use Polish and Latin medical terminology
13	Is able to communicate using modern foreign language and use professional literature in foreign language
14	Is able to obtain an accurate and relevant history of the individual animal or animal group, and its/their environment
15	Handles and restrains an animal safely and humanely, and instructs others in performing these techniques
16	Performs a complete clinical examination
17	Performs appropriate first aid for any species including first aid management of haemorrhage, wounds, respiratory disorders, eye and ear injuries, emaciation, burns, tissue damage, internal organ damage and cardiac arrest
18	Assesses the nutritional status of an animal and is able to advise the client on husbandry and feeding principles
19	Collects, preserves and transports samples; performs standard laboratory tests, and interprets the results of those generated in-house, as well as those generated by other laboratories
20	Uses radiographic, ultrasonic, and other technical equipment applied as a diagnostic tool, safely and in accordance with current regulations
21	Follows correct procedures after diagnosing notifiable and reportable diseases
22	Accesses the appropriate sources of data of licensed medicines and uses information obtained.
23	Prescribes and dispenses medicines responsibly in accordance with relevant legislation and ensures that medicines and waste are safely stored and/or disposed of
24	Safely performs sedation, general and regional anaesthesia, assessing and controlling pain
25	Advises on and administers appropriate treatment
26	Applies aseptic surgery principles and principles of surgical equipment sterilization
27	Evaluates the necessity of euthanasia and provides adequate and appropriate information to owners on this subject. Performs euthanasia according to veterinarian approved procedures
28	Performs a basic gross post mortem examination, records details, samples tissues, stores and transports them
29	Performs ante and post mortem inspections of food animals, evaluates the quality and safety of animal origin products
30	Assesses and implements basic health and welfare records (and production records where appropriate)
31	Advises on, and implements preventive and prophylactic programmes appropriate to the particular species
32	Evaluates and implements recommendations which minimize the risks of

	contamination, cross infection and accumulation of pathogens in the veterinary premises and in the environment
<b>SOCIAL COMPETENCIES</b>	
The student:	
1	Takes full responsibility for making decisions related to humans and animals
2	Applies the ethical codes of the appropriate regulatory bodies
3	Shows tolerance for diversity of human personalities and behaviours due to different cultural and social background
4	Has the ability to solve conflicts and flexibility in response to social changes
5	Is able to critically evaluate own work done by others; is able to improve the proposed solutions
6	Demonstrates a commitment to continuing education and professional development.
7	Is aware of personal limitations
8	Puts patient's welfare first
9	Is able to collaborate with professionals in other disciplines in relation to the protection of public health
10	Has the ability to work under uncertainty and stressful conditions
11	Has the ability to organize teamwork
12	Is aware of the necessity of commitment to the activity of professional and local government bodies
13	Is aware of the consequences of his/her decision, especially in relation to decisions which affect the environment
14	Knows the basic law and the rules for protection of intellectual property rights

## Annex III

The exact yearly curriculum taken by each PhD student.

<b>First year</b>			
	Winter semester (hours)	Summer semester (hours)	Examination
<b>General education subjects</b>			
Copyright	5	-	pass
Methodology of science	15	-	pass
Philosophy	-	15	pass
<b>Major courses</b>			
Lectures in the scientific discipline	30	-	exam
Monographic lectures in the scientific field	-	30	pass
Laboratory workshops	30	-	pass
Doctoral seminar	15	-	pass
<i>Total</i>	95	45	-

<b>Second year</b>			
	Winter semester (hours)	Summer semester (hours)	Examination
<b>General education subjects</b>			
Ethics	15		pass
Foreign language*	30	30	pass
<b>Major courses</b>			
Lectures in the scientific discipline	30	30	exam
Methodology of research	15		pass
Doctoral seminar	15		pass
<i>Total</i>	105	60	-

\*German, Italian, French, Spanish or Russian

<b>Third year</b>			
	Winter semester (hours)	Summer semester (hours)	Examination
<b>General education subjects</b>			
Economy	15	-	pass
Psychology	15	-	pass
Voice emission	15	-	pass
Text drafting	15	-	pass
Statistics	-	30	pass
<b>Major courses</b>			
Lectures in the scientific discipline	-	30	exam
Methodology of research	15	-	exam
Doctoral seminar	15	-	pass
<i>Total</i>	90	60	-

<b>Fourth year</b>			
	Winter semester (hours)	Summer semester (hours)	Examination
<b>General education subjects</b>			
Pedagogics	30	-	pass
Base management	30		pass
Philosophy or Ethics or Economy		30	exam
<b>Major courses</b>			
Monographic lectures in the scientific field	30		pass
Lectures in the scientific discipline	-	30	exam
Doctoral seminar	15	-	pass
<i>Total</i>	105	60	-