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# Annex 1.1

## RAD MODEL LM-42

University of PARMA

Faculty VETERINARY MEDICINE

Class LM-42 Medicina Veterinaria

Course name Medicina Veterinaria

English course name Veterinary Medicine

Internal University code for the course 5029

The course is the transformation of  
MEDICINA VETERINARIA (PARMA) (cod 1771)

Date of Ministerial Decree approval of academic structure

26/03/2009

Date of Regional Decree issuing academic structure

14/04/2009

Date of approval by Faculty council 13/11/2008

Date of approval by Academic Senate 15/01/2009

Date of technical report by Assessment Core Group

17/12/2008

Date of meeting with organizations representing manufacturing, services and professions at a local level

24/10/2008

Method of conduction conventional

Degree course website <http://medvet.unipr.it>

Maximum number of credits assigned  
(Ministerial Decree 16/3/2007, Article 4)

30

Courses in the same class

### **Criteria followed in the course's transformation from the 509 to the 270 system**

The transformation of the degree course became necessary to meet the new mission of the veterinary profession within the E.U. The course design was developed based

on the guidelines included in the assessment system of European Veterinary Medicine Faculties “Manual Standard Operating Procedures 2007” (SOP 2007) under the control of the “European Association of Establishment for Veterinary Education”.

The application of the SOP 2007 was adopted jointly by the local Board of Veterinarians, Department of Public Health (AUSL), and Istituti Zooprofilattici Sperimentali, Unions of public veterinarians and veterinary practitioners to meet the new needs for knowledge, skills and competences, both theoretical and practical, currently required by the E.U.

The course design included a careful review and analysis of available human resources, professors and technical-administrative personnel as well as assessment of the appropriateness of infrastructures, adequacy of the inventoried equipment and apparatuses and the existence of a local and national network of internship agreements with institutional, agricultural-livestock and feed and food industry partners.

Thus, the transformation of the degree course was the result of an assessment of the existing academic potential and a critical comparison between the current academic programme and that required by the E.U. job profession.

### **Summary of the technical report by the Assessment Core Group**

The transformation of the degree course became necessary to meet the new mission of the veterinary profession within the E.U. There are sufficient resources. Teaching staff is used efficiently.

The Faculty has the necessary lecture halls and laboratories. The name of the course is clear and comprehensible.

Social representation has expressed its approval. The respective professional areas and professions are stated in detail.

The results expected from the educational programme are clear and detailed. The final examination comprises the presentation and discussion of a written report. The scientific production by Faculty professors is well documented. The candidates must sit for a national admission test. The trend in the number of students enrolled for the first year, complies with the planned number. The course is attended by students predominantly from outside the region.

The percentage of regular students is equal to 85.9%. The dropout rate between first and second year for the class of membership, 2007/08, is estimated at 3.9%. The percentage of regular graduates is equal to: 51.0%. Candidates must support the national test for admission and based on the results draw the merit list. The level of satisfaction of students for the teaching of the course of study amounted to 86.1%. The level of satisfaction of graduates on the course of study is: 94.0%. The percentage of employment after degree is 61%. The course has reported an adequate number of tutors.

### **Summary of consultation with organizations representing the local sectors of manufacturing, services and the professions:**

The design of the academic programme for the LM -42 class is not limited to meeting the guidelines of Ministerial Decree 270 but was also adopted jointly by the local Board of Veterinarians, Department of Public Health (AUSL) and Istituti Zooprofilattici Sperimentali, Unions of public veterinarians and practitioners to meet the Standard Operating Procedures 2007 set forth by E.A.E.V.E. and also to meet the new needs of the job market of the veterinarian profession within the E.U.

Preliminary meetings were held at the Province offices of the local Board of Veterinarians of Parma and Reggio Emilia and Public Health Department of Parma. After these meetings and after careful consideration, the Faculty Council voted to establish a permanent Faculty consultation technical roundtable with the stakeholders, composed of Dean, Vice Dean and President of the Degree Course and two students. Consultation of the organisations representing the veterinary profession was held 24<sup>th</sup> October 2008 in a joint session with the members of the permanent technical roundtable and minutes were taken of the meeting with a list of those present and all discussions. The consultation resulted in a unanimous positive outcome.

The technical roundtable and stakeholders will meet at least once a year to critically analyse the LM-42 degree course and, if necessary, promptly and effectively intervene to improve it.

### **Specific academic objectives for the class**

Specific academic objectives

Graduates from the veterinary medicine degree possess the scientific theoretical-practical knowledge and abilities for the practice and are also cultivated for long life learning as well as scientific research.

*Graduates must know:*

- essential theoretical knowledge from basic subjects and basic sciences, within the framework of their later professional application;
- the ability to detect and critically assess the state of health, disease and welfare of the individual animal and in breeding, including aquatic organisms. Knowledge on human-related zoonosis. Knowledge of physiopathology as well as organ and systemic pathology. Graduates must also have the ability to prepare medical and surgical procedures aimed at eliminating disease or illness;
- knowledge of epidemiology, diagnosis, prophylaxes, therapy and control of infectious and parasitic diseases of animals;
- the ability to detect and critically assess the state of health, food hygiene, quality and

alterations of animal products which can negatively affect human health; they must also know the production and processing processes of animal products;

- knowledge of animal nutrition and feeding and breeding improvement technologies;
- the ability to detect and critically assess the impact of animal breeding on the environment;
- the ability to plan, enact and control public veterinary healthcare plans;
- the ability to manage and control the production chain of animal products and their safety;
- written and oral mastery of at least one European Union language in addition to Italian.

Graduates in veterinary medicine deal with the protection of animal health and human health (zoonosis, food borne) who eat animal and contribute to protecting the environment. Other than veterinary practice, veterinary graduates can work in the Dpt of Public Health (AUSL, IZS), Armed Forces, public and private industry (livestock, pharmaceutical, feed and processing of animal origin foods) and in research centres. The academic activity in the discipline areas related to basic learning includes in-depth study of the subjects of chemistry, biochemistry, anatomy and physiology indispensable for understanding and intervening on biological phenomena.

*Graduates must learn:*

- physical methods of specific interest in the study of biological systems, instruments for formulating elementary mathematical models, as well as computer applications for numerically solving math problems;
- chemistry with particular reference to macromolecules of biological interest, biochemistry concepts of the structural organisation of cells and metabolic processes in animals of veterinary interest; they must also possess general knowledge on the principles and methods of chemical and biochemical analysis, aimed at monitoring environmental pollution and laboratory medicine;
- fundamentals of plant and animal biology, as well as molecular biology;
- knowledge of the macroscopic, microscopic and ultrastructure of the domestic animal;
- fundamentals of cellular and general veterinary physiology.

The academic activity in the specific disciplines must be aimed at a broad education in veterinary medicine. Graduates must be able to work in the field of breeding, farm management, pathology, clinical, diagnostic labs, treatment and prevention of animal diseases, including aquatic organisms, zoonosis, as well as food hygiene and quality control, especially in reference to animal products.

In particular, veterinary medicine graduates must acquire the knowledge useful and indispensable required by the Scientific Subject Sectors included the Specific

Academic Activities in the ministerial tables which are an integral part of the Class (LM-42). In addition, students will complete their education by means of additional academic activities useful for the veterinary profession.

Academic activities related to the preparation of the final exam must be used to discuss a thesis aimed at demonstrating speculative ability on a subject of veterinary interest. In terms of the definition of the study programme, with a total duration of five years, required for performing the activities foreseen by the directive 78/1027/EEC, the University's academic regulations are in compliance with the requirements of this decree and article 6, paragraph 3 of the Ministerial Decree n° 270 of October 22<sup>nd</sup>, 2004.

Graduates can acquire specific medical-veterinary professional skills by performing training, for a period not less than 30 credits (ECTS), carried out during periods established by the academic structure, but preferably during the last year, at universities or in accredited public (Departments of Public Health (AUSL, IZS), and Istituti Zooprofilattici Sperimentali) or private (accredited by competent academic board) facilities.

### **Academic objectives specific to the course, and description of the syllabus**

The academic quality of the veterinarian is achieved thanks to a specific programme, characterised by a series of consecutive steps, which the students must follow in the degree programme, which lasts 5 years and is divided into 2 semesters/year for a total of 10 semesters.

The learning quality is very often translated into the concept of competence revolving around problem-solving, therefore students must acquire evidence based knowledge and specific skills.

The essential competences are divided into three important areas:

- A) General professional competences: specific characteristics of veterinarians;
- B) Basic knowledge and learning: knowledge and learning required for practice and any other professional opportunities in any area of veterinary medical science;
- C) Basic practical competences: basic practical competences necessary, a) at the time of graduating and b) after a practice period of professional training.

Students must gradually obtain knowledge and specific competences for independently making professional decisions in a diagnostic framework (intra-vitam and post-mortem), and for treating, controlling and eliminating diseases. Healthcare education is aimed at acquiring notions for protecting the animal welfare and the veterinarian's role in protecting public health.

Students must acquire managerial abilities in terms of veterinary urban hygiene (fight against strays), livestock hygiene, animal feeding and nutrition. Students must

also acquire competences in the areas of food hygiene, quality and safety of animal products.

The teaching method is characterised by a calibrated study load, which let average students learn consistently to know and to know how. The curricular programme requires attendance at lessons and observance of pre-requisites.

Guidance activity (15 credits - ECTS) is included in the first four years of the course and first semester of the fifth year.

It is aimed at introducing students to the clinical and no-clinical training (30 credits - ECTS) to be performed during the last semester of the fifth year. The purpose of the guidance and the training guidance is to let students acquire so-called one-day-skills, i.e. professional capabilities and skills which make them immediately operative, after licensing, to practice the veterinary profession.

The skills and competences acquired during the guidance and training periods will be documented in a portfolio and checked by passing practical tests designed to also allow an accurate attitudinal assessment on clinical, livestock and food hygiene and meat inspection.

### **Expected academic results, expressed by means of the European qualification descriptors**

#### *Knowledge and understanding*

Veterinary Medicine graduates must have knowledge on inter-relations existing between basic sciences and clinical sciences, livestock sciences and food hygiene and meat inspection in relation to the complexity which is characteristic of the state of health, animal welfare and protection of the consumer, with particular focus on the interdisciplinary nature of veterinary medicine.

1. know and understand the basic bio structural organisation of organisms and the basic cell processes of animals and plants;
2. know fundamental notions of biomathematics, useful for a development of quantitative logic and instruments for defining and characterising biomedical phenomena; notions of physics, for understanding the anatomical-clinical biomechanics, kinetics and static, as well as the physics principles of fluid, acoustic and optical dynamics and electrical phenomena applicable to the cell and transmission of electrical impulse in animal organs and systems;
3. possess information technology skills useful for managing service information technology systems, consulting databases and continuous professional education;
4. know, interpret and understand the morpho-structural organisation of animals of veterinary medical interest, in relation to anatomic-clinical applications, from an anatomical to histological level including the process principles by which complex organisms are generated, grow, develop and organised into tissues, organs, apparatuses

and anatomical systems;

5. know the basics of chemistry for understanding molecular and biochemical mechanisms a, cell life processes and their metabolic functions;

6. know the phenomena and mechanisms associated with cell and organ functions of the animal body, their dynamic integration in systems and general control mechanisms in normally functioning conditions;

7. know the mechanisms of gene information expression at a cellular and molecular level as well as of animal populations, to understand the genetic bases of biodiversity related to the genetic improvement of animals in livestock production, to the recognition of species and races of animals of veterinary interest. Know the genetic, diagnostic and preventive surveillance, useful for eradicating diseases related to susceptible genetic polymorphisms or resistance: e.g. scrapie;

8. know the structure and function of microorganisms, the relationship between microorganisms-host and related immune defence mechanisms. Know how to formulate the diagnosis, prophylaxis and treatment of infective and parasitic diseases of domestic animals and bird species; control of infectious and parasitic diseases with particular reference to zoonoses, including food borne origin;

9. know the fundamentals of epidemiology for the study of the distribution and frequency of diseases, and their course in the animal population;

10. know the causes of diseases in animals, to understand and decodify the fundamental pathogenic and physiopathological mechanisms;

11. possess an adequate systematic knowledge of the most significant diseases of various organs and systems, under an etiopathogenic, physiopathological and clinical profile, in the context of a single and overall vision of animal pathology. Possess the ability to critically assess and correlate clinical symptoms, physical signs and function alterations which are found in animals with anatomical/pathological injuries, interpreting their pathogenic mechanisms and studying the clinical and/or food safety significance;

12. possess the ability to correctly apply the instrumental methods for detecting clinical, functional and laboratory findings, critically interpreting them under a physiopathological profile, for the purposes of diagnosis and prognosis;

13. know veterinary professional ethic connected to professional responsibility, to critically assess the ethical principles, used as a basis for different possible professional decisions. Possess also the ability to develop an interdisciplinary type mental approach, analysing knowledge of the rules and dynamics which characterise team work;

14. know , bioethics and laws to supply the knowledge necessary for performing the professional activity in compliance with national and E.U. laws, for the purposes of protecting public health, animal healthcare and the environment;

15. know the various classes of drugs and toxins, their molecular and cellular mechanisms and their action; the fundamental principles of pharmacodynamics and pharmacokinetics and the knowledge of therapeutic use of drugs, the pharmacological interactions and the criteria for defining treatment programmes. Know the principles and methods of clinical pharmacology, including pharmacosurveillance, side effects and improper use to illegally improve performance in sports (doping) or the performance and body composition in animal production (repartitioning agents);
16. ability to propose different imaging diagnostic procedures and to interpret findings. Know the indications and methods for the use of contrast agents. propose therapeutic use of radiation and related principles for radiation protection;
17. know pathological anatomy, cell, tissue and organ injuries and their evolution in relation to the most significant diseases of various organs and systems and in relation to the pathologist contribution to the clinical decision-making process. Possess the ability in the histopathologic and cytopathologic diagnosis, bio molecular techniques, for diagnosis, prevention, prognosis and treatment of diseases of single animal or groups of animals. Know how to interpret pathological findings; know fundamentals of Forensic veterinary medicine;
18. possess an accurate knowledge of the most evolved technological and biotechnological development in use in veterinary medicine;
19. know the territorial health animal problems gained from practical in-service training directly in the field;
20. know health emergencies caused by climatic – environmental eco-risks;
21. know livestock feed, feed techniques and animal nutrition in livestock production and in companion animals;
22. know the systems and environments of breeding, zoognostics, ethology and ecology to provide scientific instruments for correct healthcare management of animals in livestock production, in relation to the protection of animal and consumer welfare and to the respect of the environment;
23. know the causes and pathogenic mechanisms of diseases and the main reactions of animal organisms in response to these diseases to supply the bases for correctly forming a diagnosis and treatment;
24. know the production and processing processes of animal origin food to identify and prevent food borne risks for human;
25. know symptoms, organ physiopathology, ancillary diagnostic techniques and treatment of diseases (medical and surgical) to formulate diagnoses and set up treatments for diseases of animals of a veterinary medical interest;
26. know the physiology and physiopathology of reproduction in animals, of natural and artificial insemination including embryo transfer. Know also the physiology

and physiopathology of birth and reproductive and neonatal pathologies for animal reproduction management and for the diagnosis and treatment of reproduction system diseases;

27. know the main diseases of laboratory animals and exotic species;

28. possess basic knowledge of aquaculture and fish pathology.

Veterinary Medicine graduates will perform practical activities in clinical, food hygiene and meat inspection and zootechnical professional environments.

For the indicated purposes, graduates will have acquired specific professionalism in the field of internal medicine, surgery, obstetrics and gynaecology, infectious diseases, parasitic diseases and pathological anatomy, as well as in the livestock area and food hygiene and meat inspection of foods, by performing training designed to develop specific professional skills. The practical training is performed full time, directly supervised by professors or competent body, of duration not longer than six months out of the total five years of study, as required by DIRECTIVE 2005/36/EC OF THE EUROPEAN PARLIAMENT AND COUNCIL, published in the Official Gazette of 7 September 2005, related to the recognition of professional qualifications. This training is to be performed in an integrated manner with the other academic activities of the course at university educational-assistance infrastructures, Dpt of Public Health facilities (AUSL, IZS), slaughterhouses, animal livestock farms, feed and food producers and municipal kennels for dogs and cats.

The acquired knowledge and ability to understand will be periodically assessed by written and/or oral and/or practical tests.

#### *Applying knowledge and understanding*

Veterinary Medicine graduates must have acquired:

1. ability to autonomously take the anamnesis and perform a clinical and instrumental clinical examination, diagnostic tests on biological fluids, tissues and cells, both *intra-vitam* and *post-mortem*, to assess the state of health, disease and welfare of single animal or groups of animals, in consideration of connected zoonotic risks. Capabilities in studying the inter-relations existing between basic sciences and clinical sciences to perform a diagnosis, a prognosis and to propose medical and surgical treatments, aimed at eliminating disease or illness;
2. ability to independently detect and assess the healthiness of animal origin foods. Ability in applying the chain hygiene measures to adopt in the production, processing and preservation process of foods in order to guarantee their quality and safety and to prevent alterations which may be harmful for human health;
3. ability to promote the development of livestock science and apply technical

knowledge on feeding and breeding of animals in livestock production to respect animal welfare and protect the environment;

4. ability to design and plan veterinary public health interventions both in ordinary conditions and in emergency;

5. apply professional ethics rules and national and E.U. veterinary laws.

The combination of knowledge and skill is acquired and developed during the entire academic programme and is particularly refined and transformed into knowing how during periods of guidance and training.

Assessment of skills will be assessed by in-course practical tests.

#### *Making judgements*

Veterinary medicine graduates will know how to act, in daily professional practice, with full independence of judgement supported by their knowledge, competences and skills, to improve the quality of treatment, animal welfare and public health. They are aware of their ethical responsibilities towards the single animal or groups of animals, client and community, they are also aware of the fact that their professional decisions may have determinant repercussions on the environment and society, also in the absence of a complete scientific information.

Independence of judgement is tested and assessed with written tests and context simulations (episodes of food poisoning in single cases and group situations, epizootic emergencies, zoonotic risks, etc.) where the graduate independently solves the various problems which the veterinarian is involved.

#### *Communication skills*

Veterinary Medicine Graduates must:

1. know how to effectively communicate with clients, laypeople, colleagues and Authorities regarding medical-veterinary subjects, both basic and specialist. They must also be able to listen and respond with an attitude in keeping with the situation, even if difficult, using appropriate language in relation to the context and counterpart.

2. know how to communicate in English, both orally and in writing on basic and specialist medical-veterinary subjects.

Communication skills will be tested and assessed by discussion of cases and methods during exercises, guidance, in-service training, tests and final exam.

#### *Learning skills*

Veterinary Medicine graduates must:

possess adequate experience in independent study and in organising their permanent training and have the ability to autonomously perform a bibliographic study in

databases and websites for professional updating. They must have gained the ability to critically read scientific articles, derived from their knowledge of English language which allows them to understand international literature and to remain updated.

At the end of the *curriculum studiorum* of veterinary medicine graduates will have achieved a cultural background which let them continue in the 3rd cycle of university studies: PhD, specialisation schools (professional colleges) or Master.

Assessment of learning is performed in-course, with tests, and ends with the assessment of the final examination.

### **Knowledge required for admission**

To be admitted to the Course in Veterinary Medicine, students must possess a secondary school diploma or another equivalent qualification taken abroad.

Admission to the Course in Veterinary Medicine is disciplined for each university and each academic year, by a planned number of student contingents (E.U. and non-E.U.) in relation to a Decree from the Ministry of Education, University and Research (M.I.U.R.). The M.I.U.R. drafts the admission test and sets the date, starting time and duration. Therefore, the admission test is given at the same time at all Veterinary Medicine Faculties. The admission test currently entails a written test with questions on General Knowledge and Logic, Biology, Chemistry, Maths and Physics. It is a multiple choice test.

Pre-enrolled candidates must sit for the national admission test, and based on the results calculated on the number of correct, incorrect and unanswered questions, a classification is prepared.

The candidates in the classification included within the number established for the Faculty by M.I.U.R. are enrolled unless they explicitly waive this right in writing. Places which become vacant are filled from the classification until the planned number of E.U. and non-E.U. students is reached for the Faculty.

Gaps in academic preparation, considered to be a lack of the specific knowledge required for admission to the Course in Veterinary Medicine, revealed during the admission test, are made up during the first year of the course with make up procedures, testing and removal according to the rules of the Faculty Regulation.

### **Characteristics of the final examination**

The final examination includes the presentation and discussion, before the Degree Commission, of a written report, called thesis, organised along the lines of a scientific publication, independently prepared by the student under the supervision of a supervising Faculty professor regarding a specific Veterinary Sciences topic.

The Degree Commission must approve the thesis before assigning a degree.

The degree is assigned by the Degree Commission on a scale of one hundred and ten. Degree exams are open to the public.

The proclamation takes place at the end of the Degree Commission's work.

### **Employment and professional opportunities for graduates**

The professionals emerging from this course may perform:

Veterinary practice;

specialist activity within the national Public Health Service: AUSL and IZS;

professional activity in industries such as livestock farm, pharmaceutical, feed and food production and processing;

professional activity in Local Agencies: Municipalities, Provinces and Regions;

professional activity in Aid Agencies

professional activity within the European Union: EFSA, DG SANCO, etc.

professional activity at Universities and Research Centres: CNR, INRCA, etc.

professional activity in the Army's Veterinary Corps

professional activity at Ministries

### **The course provides a preparation for the profession of**

Veterinarians and similar professions

### **Basic sciences and Basic subjects**

discipline sector credits

Disciplines applied to

medical-veterinary studies

FIS/01 Experimental physics

FIS/02 Theory of physics, mathematical models and methods

FIS/03 Physics of matter

FIS/04 Nuclear and sub nuclear physics

FIS/05 Astronomy and astrophysics

FIS/06 Physics for the earth system circumterrestrial medium

FIS/07 Applied physics (to art, the environment, biology and medicine)

FIS/08 Academics and history of physics

MAT/01 Mathematical logic

MAT/02 Algebra

(Min. 6. Assigned 6)

MAT/03 Geometry

MAT/04 Complementary mathematics

MAT/05 Mathematical analysis

MAT/06 Probability and mathematical statistics

MAT/07 Mathematical physics

MAT/08 Numerical analysis

MAT/09 Operational research

Biology and

plant and animal

genetics

BIO/01 General botany

BIO/05 Zoology

(Min. 6. Assigned 6)

Structure,

function and metabolism of

molecules of a biological

interest

BIO/10 Biochemistry

BIO/12 Clinical biochemistry and clinical molecular biology

(Min. 12. Assigned 15)

Structure and

function of animal

organisms

VET/01 Anatomy of companion animals

VET/02 Veterinary physiology

(Min. 30. Assigned 40)

**Total credits assigned to foundation academic activities** (minimum 58 as per Ministerial Decree) **67**

### **Specific academic activities**

SDS

Animal Production

AGR/17 General animal husbandry and genetic improvement

AGR/18 Animal nutrition and feeding

AGR/19 Special animal husbandry

(Min. 20. Assigned 20)

Infectious and

infective diseases

VET/05 Infectious diseases of domestic animals

VET/06 Parasitology and parasitic diseases of animals

(Min. 20. Assigned 30)

Pathological Anatomy

and Food Hygiene/Public Health

VET/03 General pathology and veterinary pathological anatomy

VET/04 Inspection of food products of animal origin

(Min. 30. Assigned 36)

Clinical Sciences

VET/07 Veterinary pharmacology and toxicology

VET/08 Veterinary internal medicine

VET/08 Veterinary surgery

VET/10 Veterinary obstetrics and gynaecology

(Min. 55. Assigned 60)

Information technology

methods and statistics

ING-INF/05 Information processing systems

(Min. 5. Assigned 5)

**Total credits assigned to specific academic activities** (minimum 130 as per Ministerial Decree) **151**

### **Related and additional academic activities**

AGR/01 Rural economics and surveying

AGR/02 Agronomy and herbaceous crops

AGR/17 General animal husbandry and genetic improvement

AGR/18 Animal nutrition and feeding

AGR/19 Special animal husbandry

M-FIL/02 Logic and philosophy of science

VET/03 General pathology and veterinary pathological anatomy

VET/04 Inspection of food products of animal origin

VET/05 Infectious diseases of domestic animals

VET/06 Parasitology and parasitic diseases of animals

VET/07 Veterinary pharmacology and toxicology

VET/08 Veterinary internal medicine

VET/08 Veterinary surgery

VET/10 Veterinary obstetrics and gynaecology

(Min. 12. Assigned 17)

*Reasons for the inclusion of sectors comprised in the class (AGR/17, AGR/18, AGR/19, VET/03,*

*VET/04, VET/05, VET/06, VET/07, VET/08, VET/09, VET/10) in area of related activities.*

*Veterinary degree require a streamlining of the academic connections which exist between clinical, livestock and inspection subjects in the dimension of the complexity of knowing and knowing how. Therefore it is essential to implement knowledge/competences/ skills of the specific activities to complete the professional, interdisciplinary (preclinical scientific subject sector) and transcultural (clinical, livestock and inspection scientific subject sector) preparation of the veterinarian who must work in the health context of the European Union.*

**Other academic activities (Ministerial Decree 270, article 10 §5)**

Elective subjects, chosen by the student (article 10, point 5, letter a)

(Min. 8. Assigned 8)

For the final examination (thesis) (Min. not indicated. Assigned 9).

For foreign language (english) (Min. not indicated. Assigned 3).

Professional training (Min. not indicated. Assigned 30).

Other knowledge useful for entering the world of work

For internships (pre-professional internship "ORIENTAMENTO") and work experience courses at companies, public or private organizations, or professional orders (article 10, point 5, letter e) (Min. not indicated. Assigned 15).

**Total credits allocated to other academic activities      65**

**Total credits necessary to attain the qualification      300**

# Annex 2.1

## AGREEMENT FOR STUDENT EXCHANGE

between

Cornell University for and on behalf of its  
College of Agriculture and Life Sciences  
Ithaca, New York USA

and

Università degli Studi di Parma  
Facoltà di Medicina Veterinaria  
43100 – Parma (ITALY)

### **1. The Parties**

1.1 Unless otherwise defined, “exchange” shall mean a one-for-one exchange of students from each university; “exchange students” shall mean undergraduate students participating in the exchange implemented herein; “home university” shall mean the university at which the student intends to graduate; and “host university” shall mean the university that has agreed to receive the exchange students from the sending university.

1.2 The executing unit for Cornell University will be the Office of Academic Programs in the College of Agriculture and Life Sciences (CALs). The responsible unit for the Università degli Studi di Parma will be the Faculty of Veterinary Medicine.

### **2. Student Exchange**

2.1 Eligible students for exchange programs will be recommended by the home university. The host university will review the academic records and recommendations of students in a final determination of eligibility for a particular program. Diffusion, recruitment and selection procedures are the responsibility of the home university, which will fulfill these tasks respecting the eligibility criteria for participation in the exchange agreed by the parties.

2.2 The agreement allows for as many as two (2) students to study at the host university for a period of a normal academic year. This student/year unit could be used for four students during one semester, two students for two semesters in a year, or one student for a normal academic year and two students for one semester each. Both universities will review the program annually for any imbalances in the number of exchange students and try to adjust the numbers of students exchanged to maintain a proper balance in the exchange. Both universities will endeavor to make the number of exchange students equal by the end of the agreement. Unused semesters from one year may be carried over as credit for a future year, except that at the end of three years any balances will be dropped unless otherwise agreed in writing.

2.3 Students participating in the exchange program will continue as degree candidates of their home institution. They will be enrolled on a full-time basis as non-degree students at the host institution.

2.4 Each university will, within the limits of their resources, assist exchange students covered under the terms of this agreement in securing accommodations and in achieving their study and research goals. The host university will provide services for the visiting student comparable to those provided for its regular students (for example, e-mail number, and library resources, etc.).

### **3. *Student Enrollment, Attendance and Assessment***

3.1 The exchange students must have completed at least one year of continuous study at the home university before being accepted for the exchange and must satisfy the academic requirements of their course of studies. Students must fulfill the language proficiency requirement stated by the host institution. Upon completion of the exchange, students must return to the home university.

Non-English speaking students studying at Cornell must prove English proficiency. If the student is enrolled in an English speaking curriculum, has been tested by their home school, those results will be accepted. If the student has difficulty writing in English, the student will be required to take English for Academic Purposes at Cornell.

Courses at the Università degli Studi di Parma are in Italian language. Cornell students attending the Università degli Studi di Parma will be assisted by the local faculty advisor during the fulfillment of all their activities including, in case of need, the translation in English of the attended lectures. Nonetheless, the Faculty of Veterinary Medicine of the University of Parma commits to activate some courses in English language for exchange students. In order to facilitate the comprehension

process, Cornell students will be admitted to the Italian Language Course organised by the Settore Abilità Linguistiche of the Università degli Studi di Parma.

3.2 Exchange students accepted by Cornell University will be admitted into a department of the College of Agriculture and Life Sciences as undergraduates. Exchange students are required to take a minimum of two classes in the College of Agriculture and Life Sciences and are able to take classes in the other colleges at Cornell but enrollment in the class cannot be guaranteed. Students accepted by the Università degli Studi di Parma will be admitted to the Faculty of Veterinary Medicine, with no restrictions on the courses they choose to attend. On the basis of specific agreements by the Parties, and based on the specificities of each selected exchange student, Cornell students will have the opportunity to carry out practice and traineeships periods at one or more companies/bodies/organizations operating in the specific scientific field for which this agreement is activated. This practice/traineeship period will be fully organized by the faculty advisor (see below).

3.3 Students will be assigned a faculty advisor at the host university.

3.4 Each university party to this agreement will recognize the credits awarded by the other university for courses taken and assessed according to the regulations and practices of the host university, and provide one transcript of work completed by the exchange students.

#### **4. *Student Insurance and Liability Insurance***

4.1 All exchange students will be required to be covered by adequate personal health (including hospitalization) insurance for the exchange period, satisfactory to the host institution.

- At Cornell, all incoming exchange students will be automatically enrolled in Cornell's health insurance (SHIP) unless a waiver is accepted. If the student chooses to be insured by a plan other than SHIP, the coverage must be equivalent to SHIP and the carrier must have a claims office in the United States.
- At Università degli Studi di Parma, all incoming exchange students will be enrolled in Università degli Studi di Parma insurance system, covering third party (responsabilità civile), lab access, permanent injury and death. Due to the framework of Italian Healthcare System, hospitalization and medical care are not included in this insurance and must be, therefore, provided separately by each incoming mobility student.

4.2 Each party shall maintain its own insurance in amounts deemed appropriate for its operations. Such insurance shall provide for negligent acts, errors, or omissions

and provide protection against bodily injury or property damage claims. It is expressly understood that each party shall be solely responsible for its own actions and such insurance shall not extend to protect any other party.

## **5. *Academic Freedom***

5.1 Basic principles of academic freedom will be applicable to all educational and research activities undertaken by, or under the direction of, faculty who participate in the projects contemplated by this agreement. Cornell's equal opportunity and non-discrimination policies will also be applicable to the employment and assignment of faculty and staff, and to the selection and supervision of students.

## **6. *Non-Discrimination***

6.1 Specifically, both institutions agree not to discriminate against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status. Cornell and Università degli Studi di Parma shall abide by these principles in the administration of this agreement and neither institution shall impose criteria for the exchange of students which would violate the principles of non-discrimination. Breach of this covenant may be regarded as a material breach of this agreement and any related agreements.

## **7. *Indemnification***

7.1 Cornell and Università degli Studi di Parma shall each indemnify and hold harmless the other, its officers, agents and employees, for any and all liability, damages and cost attributable to the negligent acts or omissions of the indemnifying party, its officers, agents and employees while acting in the scope of their employment, and in furtherance of activities described in this agreement.

## **8. *Use of Name***

8.1 Any use of the name Cornell University including any of its constituent colleges or programs, or Cornell related logos in advertisements, publications or notices relating in any way to the activities described in this agreement shall be subject to the prior written approval of Cornell University.

8.2 Any use of the name Università degli Studi di Parma including any of its constituent colleges or programs, or Università degli Studi di Parma related logos in advertisements, publications or notices relating in any way to the activities described in this agreement shall be subject to the prior written approval of Università degli Studi di Parma.

## **9. Fees and Other Expenses**

9.1 Exchange students will pay tuition and enrollment/application fees at their home university during the exchange period. They will be exempted only from tuition and enrollment/application fees at the host institution.

9.2 Exchange students will also pay for all personal expenses incurred at the host institution, including visa, housing, travel, meals, health, books and stationery required; student services and student union/association fees as applicable at the host institution; and any fee or charge in connection with practical work directly associated with their course(s) of study, such as laboratory and physical education.

9.3 No money will be exchanged between the two institutions, nor will there be any indemnities, reimbursements for expenses, or sharing of fees or profits arising from this exchange agreement.

## **10. Proper Law**

10.1 The parties will consult with each other and attempt to resolve disputes or misunderstandings that arise in the administration of this agreement informally. In the event that internal attempts at resolution are not successful, the Parties agree that any formal claims in connection with this agreement against Cornell, its officers, agents and employees shall be brought in State or Federal Court having jurisdiction in Tompkins County, State of New York, and claims against Università degli Studi di Parma shall be brought in the courts of Tribunale di Parma, Parma, Italy. The agreement shall be construed in accord with the law of the courts in which the proceedings are brought.

10.2 Exchange students will be expected to familiarize themselves with and abide by the laws of the country and the host university's Code of Conduct.

## **11. Term, Variation and Termination**

11.1 The effective dates of this agreement shall be October 1, 2009. The agreement shall extend for a period of five (5) years and may be renewed upon mutual written agreement.

11.2 The agreement may be modified by mutual written agreement.

11.3 The agreement may be terminated at any time for material breach upon provision of written notice and a reasonable opportunity to cure. Termination may also occur for any reason upon six (6) months written notice, in which case all reasonable efforts shall be made to minimize disruption of the work of currently assigned students.

Primary responsibility for administration of this agreement at Cornell University will rest with the Office of Academic Programs in the College of Agriculture and Life Sciences and at the Università degli Studi di Parma, the Servizio Rapporti Comunitari e Internazionali. There will be a program coordinator named at each university who will act as primary contact.

Signed \_\_\_\_\_

*Susan A. Henry, Ph.D*

The Ronald P. Lynch Dean of  
Agriculture and Life Sciences  
Cornell University

Date \_\_\_\_\_

Signed \_\_\_\_\_

*Prof. Attilio Corradi*

Dean of Faculty  
Faculty of Veterinary Medicine  
Università degli Studi di Parma

Date \_\_\_\_\_

Signed \_\_\_\_\_

*Prof. Gino Ferretti*

Rector  
Università degli Studi di Parma

Date \_\_\_\_\_

## Annex 3.1

### EXPENSES FOR PERMANENT TEACHING AND SUPPORT STAFF

	2007/2008	2008/2009	2009/2010
FULL PROFESSORS	2 496 312.00	2 454 623.00	2 592 249.00
ASSOCIATE PROFESSORS	1 838 300.00	1 896 186.00	2 002 500.00
RESEARCHERS	888 012.00	964 546.00	1 068 350.00
TECHNICIANS AND ADMINISTRATIVE PERSONNEL	1 540 364.00	1 540 364.00	1 609 271.00
<b>TOTAL</b>	<b>6 762 988.00</b>	<b>6 855 719.00</b>	<b>7 272 370.00</b>

### PROPERTY ASSET OF THE FACULTY

BUILDING	YEAR 2007	YEAR 2008	YEAR 2009
DEAN AND SECRETARY	226 800.00	226 800.00	226 800.00
ANATOMY AND ANIMAL PRODUCTION	2 471 000.00	2 471 000.00	2 471 000.00
MEDICINE AND INFECTIOUS DISEASES	2 131 300.00	2 131 300.00	2 131 300.00
MEAT INSPECTION	4 195 800.00	4 195 800.00	4 195 800.00
SURGERY AND RADIOLOGY	341 800.00	341 800.00	341 800.00
LARGE ANIMALS BOXES	200 000.00	200 000.00	200 000.00
LIVING ROOM - VTH	37 400.00	37 400.00	37 400.00
LIBRARY	181 800.00	181 800.00	181 800.00
HEATING BUILDING	55 000.00	55 000.00	55 000.00
ELECTRICITY CABIN	12 300.00	12 300.00	12 300.00
REPRODUCTION, PHARMACOLOGY AND STUDENT OFFICE	791 100.00	791 100.00	791 100.00
LABORATORIES FOR MEAT INSPECTION	287 600.00	287 600.00	287 600.00
NECROPSY	69 000.00	69 000.00	69 000.00
KENNEL 1 (ANATOMY)	15 000.00	15 000.00	15 000.00
KENNEL 2 (replaced)	15 000.00	15 000.00	15 000.00
VETERINARY TEACHING HOSPITAL	937 000.00	937 000.00	937 000.00
KENNEL 3 (replaced)	16 900.00	16 900.00	16 900.00
EXTERNAL AREAS	1 103 100.00	1 103 100.00	1 103 100.00
<b>TOTAL</b>	<b>13 087 900.00</b>	<b>13 087 900.00</b>	<b>13 087 900.00</b>

## ASSETS IN FURNISHINGS, EQUIPMENT, BOOKS AND OTHER MATERIAL

## DEAN'S OFFICE AND STUDENT SECRETARIAT

DESCRIPTION	Year 2007 31.12.2007	Year 2008 31.12.2008	Year 2009 31.12.2009
FURNITURE, OFFICE EQUIPMENT	95 683.84	95 683.84	93 887.82
TECHNICAL INSTRUMENTS AND EQUIPMENT	334 816.88	360 045.86	362 096.18
AUTOMOBILES AND VEHICLES	0.00	0.00	0.00
MISCELLANEOUS	1 961.18	1 961.18	1 961.18
BOOKS AND JOURNALS	5 534.83	5 863.68	5 899.48
<b>TOTAL</b>	<b>437 996.73</b>	<b>463 554.56</b>	<b>463 844.66</b>
<b>DEPT. OF ANIMAL PRODUCTION, VETERINARY BIOTECHNOLOGY, FOOD QUALITY AND SAFETY</b>			
	Year 2007	Year 2008	Year 2009
FURNITURE, OFFICE EQUIPMENT	144 225.31	147 511.26	149 572.77
SCIENTIFIC AND ARTISITIC COLLECTIONS	223.35	223.35	223.35
TECHNICAL INSTRUMENTS AND EQUIPMENT	1 396 136.25	1 409 520.73	1 420 963.37
AUTOMOBILES AND VEHICLES	5 771.40	5 771.40	5 771.40
MISCELLANEOUS	280.40	280.40	280.40
BOOKS AND JOURNALS	148 040.50	150 843.99	154 505.33
<b>TOTAL</b>	<b>1 694 677.21</b>	<b>1 714 151.13</b>	<b>1 731 316.62</b>
<b>DEPT. OF ANIMAL HEALTH</b>			
	Year 2007	Year 2008	Year 2009
FURNITURE, OFFICE EQUIPMENT	659 639.87	645 140.35	641 015.53
SCIENTIFIC AND ARTISITIC COLLECTIONS	1 073 711.00	1 073 711.00	1 073 711.00
TECHNICAL INSTRUMENTS AND EQUIPMENT	3 946 270.12	3 816 832.50	3 827 137.03
AUTOMOBILES AND VEHICLES	41 205.24	41 205.24	41 205.24
MISCELLANEOUS	1 088.63	751.90	1 521.40
BOOKS AND JOURNALS	305 319.79	308 565.91	311 779.55
<b>TOTAL</b>	<b>6 027 234.65</b>	<b>5 886 206.90</b>	<b>5 896 369.75</b>
<b>TOTAL ASSETS FROM FURNITURE, EQUIPMENT, ETC.</b>			
	Year 2007	Year 2008	Year 2009
FURNITURE, OFFICE EQUIPMENT	899 549.02	888 335.45	884 476.12
SCIENTIFIC AND ARTISITIC COLLECTIONS	1 073 934.35	1 073 934.35	1 073 934.35
TECHNICAL INSTRUMENTS AND EQUIPMENT	5 677 223.25	5 586 399.09	5 610 196.58
AUTOMOBILES AND VEHICLES	46 976.64	46 976.64	46 976.64
MISCELLANEOUS	3 330.21	2 993.48	3 762.98
BOOKS AND JOURNALS	458 895.12	465 273.58	472 184.36
<b>TOTAL</b>	<b>8 159 908.59</b>	<b>8 063 912.59</b>	<b>8 091 531.03</b>

**INCOME FOR RESEARCH****DEPT. OF ANIMAL PRODUCTION, VETERINARY BIOTECHNOLOGY,  
FOOD QUALITY AND SAFETY**

	<b>Year 2007</b>	<b>Year 2008</b>	<b>Year 2009</b>
Research funding from the EU	17 569.00	0.00	0.00
Research funding from other international public bodies	0.00	0.00	0.00
Research funding from MIUR	39 116.00	20 000.00	0.00
Research funding from other national public agencies	5 968.00	7 000.00	14 986.00
Research funding from national public research bodies	0.00	13 304.00	0.00
Research funding from Italian industries	0.00	0.00	0.00
Research funding from Italian non profit agencies	0.00	0.00	29 600.00
Research funding from private, international non-profit agencies	3 772.00	0.00	0.00
Research funding from the University local funding	61 254.00	54 616.00	40 095.00
Other funds		14 100.00	0.00
<b>TOTAL</b>	<b>127 679.00</b>	<b>109 020.00</b>	<b>84 681.00</b>

**DEPT. OF ANIMAL HEALTH**

	<b>Year 2007</b>	<b>Year 2008</b>	<b>Year 2009</b>
Research funding from the EU	0.00	0.00	0.00
Research funding from other international public bodies	0.00	0.00	0.00
Research funding from MIUR	25 000.00	0.00	81 700.00
Research funding from other national public agencies	5 000.00	5 000.00	5 750.00
Research funding from national public research bodies	0.00	0.00	37 070.00
Research funding from Italian industries	0.00	0.00	0.00
Research funding from Italian non profit agencies	16 000.00	60 000.00	29 000.00
Research funding from private, international non-profit agencies	0.00	2 000.00	0.00
Research funding from the University local funding	128 000.00	118 000.00	93 648.00
Other funds	0.00	0.00	0.00
<b>TOTALE</b>	<b>174 000.00</b>	<b>185 000.00</b>	<b>247 168.00</b>

**TOTAL INCOME**

	<b>Year 2007</b>	<b>Year 2008</b>	<b>Year 2009</b>
Research funding from the EU	17 569,00	0,00	0,00
Research funding from MIUR	64 116,00	20 000,00	81 700,00
Research funding from other national public agencies	10 968,00	12.000,00	20 736,00
Research funding from other national public agencies	0,00	13 304,00	37 070,00
Research funding from Italian non profit agencies	16 000,00	60.000,00	58.600,00
Research funding from private, international non-profit agencies	3 772,00	2 000,00	0,00
Research funding from the University local funding	189 254,00	172 616,00	133 743,00
Other funds	0,00	14 100,00	0,00
<b>TOTALE</b>	<b>301 679,00</b>	<b>294 020,00</b>	<b>331 849,00</b>

**EXPENSES FOR RESEARCH****DEPT. OF ANIMAL PRODUCTION, VETERINARY BIOTECHNOLOGY, FOOD QUALITY AND SAFETY**

	<b>Year 2007</b>	<b>Year 2008</b>	<b>Year 2009</b>
Expenditures	18 605,00	36 788,00	107 868,00
Acquisition of capital and assets	101 116,00	111 889,00	53 918,00
<b>TOTALE</b>	<b>119 721,00</b>	<b>148 677,00</b>	<b>161 786,00</b>

**DEPT. OF ANIMAL HEALTH**

	<b>Year 2007</b>	<b>Year 2008</b>	<b>Year 2009</b>
Expenditures	260 000,00	246 000,00	138 282,00
Acquisition of capital and assets	20 000,00	7 000,00	140 848,00
<b>TOTALE</b>	<b>280 000,00</b>	<b>253 000,00</b>	<b>279 130,00</b>

**TOTAL EXPENSES**

	<b>Year 2007</b>	<b>Year 2008</b>	<b>Year 2009</b>
Expenditures	278 605,00	282 788,00	246 050,00
Acquisition of capital and assets	121 116,00	118 889,00	194 866,00
<b>TOTALE</b>	<b>399 721,00</b>	<b>401 677,00</b>	<b>440 916,00</b>

**DETAILS OF INCOME FROM THE UNIVERSITY CENTRAL ADMINISTRATION  
TO THE DEPARTMENTS FOR THEIR FUNCTIONING**

	<b>Year 2007</b>	<b>Year 2008</b>	<b>Year 2009</b>
GENERAL OPERATIONS	121 878.00	108 511.00	100 898.00
ANNALS OF THE FMVUP	10 554.00	1 114.00	0.00
TOXIC WASTE DISPOSAL	26 384.00	10 812.00	23 649.00
ANIMAL HOUSING AND UP-KEEP	10 000.00	8 000.00	15 000.00
CONTRIBUTION FOR THE FUNCTIONING OF THE TEACHING HOSPITAL	90 000.00	20 000.00	10 000.00
CONTRIBUTION DEGREE COURSES	5 000.00	0.00	3 000.00
CONTRIBUTION FOR EXTRAMURAL ACTIVITY	32 500.00	4 800.00	6 000.00
CONTRIBUTION FOR PURCHASE OF COMPUTERS/SOFTWARE	2 000.00		
CONTRIBUTION FOR TEACHING LABORATORIES	0.00	0.00	5 000.00
CONTRIBUTION FOR THE INTERNATIONAL MASTERS COURSE IN FOOD TECHNOLOGY	16 200.00	0.00	0.00
CONTRIBUTION FOR THE SPECIALIZATION SCHOOL IN ANIMAL HEALTH	0.00	5 000.00	0.00
CONTRIBUTION FOR THE SPECIALIZATION SCHOOL IN MEAT AND FOOD INSPECTION	0.00	0.00	5 000.00
<b>TOTALE</b>	<b>314 516.00</b>	<b>158 237.00</b>	<b>168 547.00</b>

**EXPENSES FOR HEATING, COOLING, GARDENING, WATER, ENERGY, etc.**

<b>YEAR</b>	<b>HEALING AND COOLING</b>	<b>MAINTENANCE OF ENERGY EQUIPMENT</b>	<b>ENERGY</b>	<b>WATER</b>	<b>GAS</b>	<b>TOTAL</b>
2007	145 000.00 □	190 000.00 □	220 000.00 □	8 000.00 □	1 600.00 □	564 600.00 □
2008	155 000.00 □	200 000.00 □	220 000.00 □	8 300.00 □	1 600.00 □	584 900.00 □
2009	167 000.00 □	74 000.00 □	230 000.00 □	9 000.00 □	1 800.00 □	481 800.00 □

# Annex 4.1

## DEGREE COURSE IN VETERINARY MEDICINE

### OLD CURRICULUM (OC-2001)

#### 4.1 Factual informations

##### Introduction

The old curriculum (OC-2001) was established in 1999 with Ministerial Decree 509 (DM 509) and the Faculty of Veterinary Medicine of Parma activated it in 2001. OC-2001 will terminate in the academic year 2013/14. Starting from the 2013/14 the new curriculum (NC-2009) will be fully operative.

The Degree in Veterinary Medicine OC-2001 was structured in 5 years, 2 semesters per year for a total of 10 semesters. The first two years include mainly basic subjects and basic sciences, and to a lesser extent clinical sciences and animal production EU-listed subjects. Lectures and practical classes are organised by the Faculty, and aim to provide preclinical and initial clinical training relevant to the practice of veterinary medicine.

The third, fourth and fifth years comprise lectures, practicals and clinical rotations. Clinical sciences, animal production, food hygiene and public health lectures and practical classes are organised by the Faculty, and aim to provide a clinical and non-clinical education relevant to the practice of veterinary medicine.

The 1<sup>st</sup> to the 8<sup>th</sup> semesters last each 13 weeks. The 9<sup>th</sup> semester last 4 weeks and is filled by Elective subjects, while the 10<sup>th</sup> semester lasts 24 weeks, is lecture-free and is completely filled by the professional training "TIROCINIO". Thus, at the FMVUP the total duration of OC-2001 teaching activities is 132 weeks.

The core educational week lasts Monday to Friday. Theoretical teaching is given during morning classes, while in the afternoon practicals are carried out either in the laboratory or in the VTH.

Theoretical classes begin at 8:30 a.m. and finish at either 12:30 a.m. or 1:30 p.m., while practical activity begin at 1:30 or 2:30 p.m. until 4:30 or 6:30 p.m. The effective

teaching hour lasts 50 minutes.

Elective subjects are planned in the 9<sup>th</sup> semester and comprise 16 hours of common professional knowledge and 32 hours of non-clinical and clinical subjects.

Professional training "TIROCINIO" is related to clinical (2 paths) and non-clinical (2 paths) veterinary education. Non-clinical professional training week "TIROCINIO" lasts from Monday to Friday. Professional training week for clinical "TIROCINIO" is organised seven days a week, including nights for emergency and clinical care for hospitalised patients.

A mobile clinical service is present for professional clinical training "TIROCINIO", and it is active mornings and afternoons, from Monday to Friday.

### **Teaching Course**

The allocation of ECTS to each subject within the degree course is an important aspect in designing and defining the curriculum. Italian legislation has not been very precise on this aspect and the OC-2001: a) gave a general indication to avoid a fragmentation of learning activities, and b) limited the number of examinations/evaluations to a maximum of 30.

The Faculty Board at the FVMUP decided that courses can either be mono-disciplinary or integrated. The latter are composed of modules and individual modules of an integrated course may belong to different disciplinary areas. Each integrated course has a Coordinator that is assigned each year by the Faculty Board, and each module is usually taught by a different teacher.

### **Propaedeutical**

The curriculum is structured in order to provide balanced curricular advance based on progressive difficulties of knowledge and skills. The curricular progression of the student is based on the principle of prerequisites (propaedeutical) to be respected, as established by Faculty regulation. Propaedeutics are listed in Table 1-Annex.

Exam	Year, semester	EU-listed Subjects	Propae- deutic to	Exam	Year, semester	EU-listed Subjects
Applied physics - Mathematic applied to biomedical sciences - Medical and biological information technology	I, 1	1a, 1e	→	General Zootechnics and genetic improvement	II, 2	2d, 4a, 4e
			→	Physiology I - Ethology	II, 1	4g, 2b
Chemistry propaedeutic to biochemistry - Biochemical - Molecular methodology and technology	I, 1	1b	→	Veterinary systemic com- parative biochemistry - Biochemical - Molecular methodology and technology	I, 2	2c
Histology Embryology - Zoology	I, 1	2a, 1c	→	Anatomy	I, 2	2a
			→	General Zootechnics and genetic improvement	II, 2	2d, 4a, 4e
Veterinary systemic comparative biochemistry - Biochemical - Molecular methodology and technology	I, 2	2c	→	Physiology I - Ethology	II, 1	2b, 4g
Anatomy	I, 2	2a	→	Special Zootechnics	III, 1	4a, 4e, 4f, 4g
			→	Physiology I - Ethology	II, 1	2b, 4g
General Zootechnics and genetic improvement	II, 2	2d, 4a, 4e	→	Special Zootechnics	III, 1	4a, 4e, 4f, 4g
Physiology I - Ethology	II, 1	2b, 4g	→	Physiology II - Endocrinology	II, 2	2b
Microbiology and immunology - Veterinary Epidemiology	II, 1	2g, 2h, 2i	→	General Pathology - Animal Physiopathology - Veterinary Immunopathology	II, 2	3b
			→	Inspection and food of animal origin control	IV, 2	5a, 5c
			→	Infectious disease I - Veterinary policy and public health	III, 2	3e, 3g, 3k, 3n, 4f
			→	Infectious disease II - Avian Pathology	IV, 1	3a, 3b, 3e, 4f
			→	Pharmacology - Toxicology - Chemotherapy	III, 1	2e, 2f, 3m
Physiology II - Endocrinology	II, 2	2b	→	Animal Feeding and nutrition - Feeding and Feed techniques	III, 1	4b
			→	General Pathology - Animal Physiopathology - Veterinary Immunopathology	II; 2	3b
			→	Pharmacology - Toxicology - Chemotherapy	III, 1	2e, 2f, 3m

Parasitology and parasitic diseases	II, 2	3c	→	Inspection and food of animal origin control	IV, 2	5a, 5b, 5c
General Pathology - Animal Physiopathology - Veterinary Immunopathology	II, 2	3b	→	Pathological Anatomy I - Pathological Anatomy II - Necroscopic Technique	III, 1&2	3b
			→	Infectious disease I - Veterinary policy and public health	III, 2	3e, 3g, 3k, 3n, 4f
			→	Diagnostic imaging - Veterinary Radiology - Surgical pathology	III, 2	3f, 3h
			→	Medical Pathology - Medical Semeiology	IV, 1	3d, 3n
			→	Obstetrics	IV, 2	3a, 3j
Pharmacology - Toxicology - Chemotherapy	III, 1	2e, 2f, 3m	→	Medical Pathology - Medical Semeiology	IV, 1	3d, 3n
			→	Surgical Semeiology - Operative Medicine - Anaesthesiology - Surgery	IV, 2	3f, 3n
			→	Obstetrics	IV, 2	3a, 3j
Diagnostic imaging - Veterinary Radiology - Surgical pathology	III, 2	3f, 3h	→	Surgical Semeiology - Operative Medicine - Anaesthesiology - Surgery	IV, 2	3f, 3n
Medical Pathology - Medical Semeiology	IV, 1	3d, 3n	→	Internal Medicine	IV, 2	3l, 3m
Topographic anatomy	II, 1	2a	→	Surgery	V, 1	3f
			→	Clinical Medicine	IV, 2	3l, 3m
			→	Obstetrics	IV, 2	3a, 3j
Pre-professional internship "ORIENTAMENTO"	I,2 to V, 1		→	Professional training "TIROCINIO"	V, 2	

Table 1-Annex: Propaedeutics according to OC-2001

(for comparison with "NC-2009", see Tab. 4.0.c in SER)

## Exams

Examinations are performed by different Exam Commissions specific for each of the 30 curricular exams (Table 2-Annex). Exam Commissions are chaired by the President. For Integrated courses, the President is usually the Coordinator or the oldest Professor in service. Commission members, as well as the President, are nominated by the Dean. Profit is expressed out of thirties, minimum is 18/30 and the maximum is 30/30, or 30/30 *cum laude* when the student shows a very high knowledge and/or capabilities. Every year, 3 exam sessions are scheduled: one in winter during the interruption

between the 1<sup>st</sup> and 2<sup>nd</sup>, and two during summer. During Christmas and Easter holiday, teachers can set an additional date for exams. Therefore, for each exam there are 7 mandatory (7) and 2 optional dates for exams.

The regular student can not take exams during semesters. Students enrolled as repeater or off-course (see Chapter 9) can sit exams during the above sessions and in additional ones set especially for them (about one each month).

Subjects/activities	MD 270 exams
<b>a.</b> Basic courses <i>of which:</i>	
<b>a.1</b> Basic subjects	4
<b>a.2</b> Basic sciences	8
<b>b.</b> Professional courses <i>of which:</i>	
<b>b.1</b> Clinical sciences	12
<b>b.2</b> Animal production	3
<b>b.3</b> Food hygiene	2
<b>d.</b> Elective subjects	1
<b>e.</b> Pre-professional internship "ORIENTAMENTO" (MD 270)	-
<b>f.</b> Professional training (MD 270 and MD 509) "TIROCINIO"	Libretto Diario
<b>g.</b> Thesis	Degree Commission
<b>h.</b> Foreign language	Knowledge

Table 2-Annex: Number of exams or other form of verification of knowledge or skills in relationship to EU-listed or non EU listed subjects or activities (for comparison with "NC-2009", see Tab. 4.0.d in SER)

## Thesis

The thesis is a compulsory final exam before graduation. Every year 6 thesis sessions are scheduled where students present and discuss the thesis. This is done in front of a Degree Commission "Commissione di Laurea" chaired by a President and composed by at least 7 professors. The thesis is presented as structured scientific work and it is prepared independently by the student under the supervision of a Professor, called Relatore, of a related scientific field. The Dean designs a professor, called Controrelatore, who critically reads the thesis before the presentation.

Profit is expressed out of 110, minimum is 66/110 and the maximum is 110/110. In particular, when the student has a very high knowledge and competences, the President can propose the honour (*laude*) which is assigned only in case of unanimity: 110/110 *cum laude*.

## 4.1.1 Power of subjects and types of training

### 4.1.1.1 Power of subject

- » "Core" subjects taken by every student;
- » "Elective subjects" which each student must select from a list of permissible subjects;
- » Obligatory extramural work.

Table 3-Annex lists the hours taken by all students aggregated by type of training.

Year	Hours of training							Total
	Theoretical training			Supervised practical training			Other (G)	
	Lectures (A)	Seminars (B)	Self-directed learning (C) <sup>o</sup>	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)		
1 <sup>st</sup>	554			87	29		18	688
2 <sup>nd</sup>	586			119	42	3	38	788
3 <sup>rd</sup>	637			116	84	50	38	925
4 <sup>th</sup>	647			76	0	193	12	928
5 <sup>th</sup>	0	16 <sup>^</sup>		20	330	330	70	766 <sup>^^</sup>
<b>Total</b>	<b>2 424</b>	<b>16<sup>^</sup></b>	<b>0</b>	<b>418</b>	<b>485</b>	<b>576</b>	<b>176</b>	<b>4 095</b>

Table 3-Annex: "OC-2001". General table of curriculum hours (comprehensive of Eu-listed and non EU-listed subjects) taken by all students, A.Y. 2009-10. Elective subjects [CIP] and Thesis excluded (for comparison with "NC-2009", see Tab. 4.1 in SER)

Note

<sup>o</sup> for many courses on-line lectures are available, but hours assigned to self-direct learning are not still included in the curriculum. Therefore this subject is difficult to estimate

(G) "Other" category includes: video-tapes, extramural teaching (visit livestock farms).

<sup>^</sup> hours of Elective subjects (CIP) compulsory for all students.

<sup>^^</sup> not including 104 hours of practice (D, E, F, and G) variously distributed within different Elective subjects (CIP).

Each year the Faculty organizes Elective courses (Corso Integrato Professionalizzante, CIP), in order to increase the educational offer taking into consideration requirements in various veterinary professional skills. The student can choose the Elective Course among other courses taught at the University of Parma or from a list of 6 paths organised at the Faculty of Veterinary Medicine, or in courses of University partners in LLP/Erasmus. Courses taught in other Faculties at University of Parma must be consistent with the educational mission of Veterinary Medicine.

Elective Subjects organised by the Faculty cover 120 hours, 16 of which are taught in a common path regarding EU-listed subjects "Professional knowledge".

Extramural work is obligatory practical activity that student must take during professional training "TIROCINIO", for a total of 169 hours (Table 15-Annex).

Table 4-Annex reports the Curriculum hours aggregated by EU-listed subjects taken by each student, professional trainings "TIROCINIO" included and Elective subjects (CIP) excluded.

Subject	Hours							Total
	Theoretical training			Supervised practical training			Other (G)	
<b>1. Basic Subject</b>	Lectures (A)	Seminars (B)	Self - directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical training (F)		
a) Physics	27							<b>27</b>
b) Chemistry	82						13	<b>95</b>
c) Animal biology	31						5	<b>36</b>
d) Plant biology	18							<b>18</b>
e) Biomathematics	41			7				<b>48</b>
<b>1. Total</b>	<b>185</b>			<b>7</b>			<b>18</b>	<b>224</b>

Table 4-Annex: "OC-2001" Curriculum hours in EU-listed subjects taken by each student (professional trainings "TIROCINIO" included, Elective subjects excluded). Basic subjects (for comparison with "NC-2009", see Tab. 4.2 in SER) (cont.)

Subject	Hours							Total
	Theoretical training			Supervised practical training			Other (G)	
<b>2. Basic Sciences</b>	Lectures (A)	Seminars (B)	Self - directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical training (F)		
a) Anatomy (incl. histology and embryology)	226			16	57		4	<b>303</b>
b) Physiology	159			9	14		13	<b>195</b>
c) Biochemistry, cellular and molecular biology	115			17				<b>132</b>
d) Genetics (incl. molecular genetics)	20							<b>20</b>
e) Pharmacology and pharmacy	34			14				<b>48</b>
f) Toxicology (incl. environmental pollution)	33			15				<b>48</b>
g) Microbiology (incl. virology, mycology and bacteriology)	24			14				<b>38</b>
h) Immunology	18			4				<b>22</b>
i) Epidemiology (incl. scientific and technical information and documentation methods)	42			18				<b>60</b>
j) Professional ethics								
<b>2. Total</b>	<b>671</b>			<b>107</b>	<b>71</b>		<b>17</b>	<b>866</b>

Table 4-Annex: "OC-2001" Curriculum hours in EU-listed subjects taken by each student (cont.)

Subject	Hours							
	Theoretical training			Supervised practical training			Other (G)	Total
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical training (F)		
<b>3. Clinical Sciences</b>								
a) Obstetrics	61					57		<b>118</b>
b) Pathology (incl. pathological anatomy)	227			50	46		12	<b>335</b>
c) Parasitology	73			32				<b>105</b>
d) Clinical medicine	111					149		<b>260</b>
e) Clinical lectures on various domestic animal, poultry and other animal species	42			15		3		<b>60</b>
f) Surgery (incl. anaesthesia)	135					127		<b>262</b>
g) Preventive Medicine	40					11		<b>51</b>
h) Diagnostic imaging (incl. radiology)	68					58		<b>126</b>
i) Field veterinary medicine (ambulatory clinics)								
j) Reproduction and reproductive disorders	61					67		<b>128</b>
k) Veterinary state medicine and public health	21						24	<b>45</b>
l) Veterinary legislation and forensic medicine	28						27	<b>55</b>
m) Therapeutics	61					77	10	<b>148</b>
n) Propaedeutics (incl. laboratory diagnostic methods)	105			40		24		<b>169</b>
<b>3. Total</b>	<b>1 033</b>			<b>137</b>	<b>46</b>	<b>573</b>	<b>73</b>	<b>1 862</b>

Table 4-Annex: "OC-2001" Curriculum hours in EU-listed subjects taken by each student  
(cont.)

Subject	Hours							
	Theoretical training			Supervised practical training			Other (G)	Total
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical training (F)		
<b>4. Animal Production</b>								
a) Animal production	54			13	65		10	<b>142</b>
b) Animal nutrition	83			32	50		23	<b>188</b>
c) Agronomy	13			5				<b>18</b>
d) Rural economics	76			47				<b>123</b>
e) Animal husbandry	32				55			<b>87</b>
f) Veterinary hygiene	11				18			<b>29</b>
g) Animal ethology and protection	33				13	3	9	<b>58</b>
<b>4. Total</b>	<b>302</b>			<b>97</b>	<b>201</b>	<b>3</b>	<b>42</b>	<b>645</b>
<b>5. Food Hygiene / Public Health</b>								
a) Inspection, and control of animal foodstuffs or foodstuffs of animal origin and the respective feedstuff production unit	54			15	20			<b>89</b>
b) Food hygiene and technology	30			15	20			<b>65</b>
c) Food science including legislation	60			12			26	<b>98</b>
d) Practical work (including practical work in places where slaughtering and processing of foodstuffs takes place)	24			24	128			<b>176</b>
<b>5. Total</b>	<b>168</b>			<b>66</b>	<b>168</b>		<b>26</b>	<b>428</b>
<b>6. Professional Knowledge</b>								
a) Practice management		4						<b>4</b>
b) Veterinary certification and report writing		8						<b>8</b>
c) Career planning and opportunities		4						<b>4</b>
<b>6. Total</b>		<b>16</b>						<b>16</b>

Table 4-Annex: "OC-2001" Curriculum hours in EU-listed subjects taken by each student

(cont.)

Table 4a-Annex reports the non EU-listed Curriculum and extra-Curriculum hours taken by each student.

Subject	Hours of training							Total
	Theoretical training			Supervised practical training			Other (G)	
	Lectures (A)	Seminars (B)	Self Directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)		
Final Graduation Thesis							225	225
English language	24							24
Information technology	27			4				31
Safety at work		4*						4*
<b>Total</b>	<b>51</b>	<b>4*</b>		<b>4</b>			<b>225</b>	<b>240</b>

Table 4a-Annex: Curriculum hours in non EU-listed subjects to be taken by each student, including Diploma work (final graduation thesis, or final graduation work) (for comparison with "NC-2009", see Tab. 4.4.e in SER)

\* Extra-curriculum hours compulsory for all students taught during 2009/10 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.
- » 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.
- » 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.
- » Self directed learning are sessions of individual students making use of defined teaching material provided by the Faculty (eg e-learning)

#### 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.*

Lectures and seminars can be carried out with different teaching tools, including informatics and computer devices, objects or anatomical models used by a teacher to clarify or animate a subject.

For many courses, on-line lectures are available, but hours assigned to self-directed learning are not yet included in the curriculum. Therefore this subject is difficult to estimate. Below is the list of the Courses with online teaching material for the degree course in Veterinary Medicine. This material is available for authenticated users in the section "Teaching material" at the Faculty's Home page-medvet.unipr.it.

- Animal feeding and nutrition - Feeding and Feed techniques (Animal Production EU-listed subjects)
- Pathological Anatomy I & II - Necroscopic techniques
- Plant biology
- Veterinary medical clinic
- Food of animal origin microbial control and relative legislation
- Diagnostic imaging - Veterinary radiology - Surgical pathology
- Endocrinology
- Veterinary epidemiology (this is a comprehensive online course and self-evaluation tests free at [www.quadernodiepidemiologia.it](http://www.quadernodiepidemiologia.it))
- Pharmacology - Toxicology- Chemotherapy
- Applied physics - Mathematic di base applied to biomedical sciences – Medical and biological information technology
- Physiology II - Endocrinology
- Food hygiene and technology
- Microbiology and Immunology
- Veterinary clinic neurophysiology (*shortcut url: <http://tinyurl.com/vetpr-13>; real url: [www2.unipr.it/~dondi/Neuro/didattica\\_it.htm](http://www2.unipr.it/~dondi/Neuro/didattica_it.htm)*)
- Parasitology and parasitic disease
- General pathology - Animal physiopathology - Veterinary immunopathology

- Medical pathology - Medical semeiology
- Veterinary medical therapy - Forensic medicine, legislation and animal protection
- General Zootechnics and genetic improvement (Animal Production EU-listed subjects)
- Special Zootechnics (Animal Production EU-listed subjects).

#### 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).*
- » *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.*
- » *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.*

Our teaching system is compatible with SOP 2007 declarations.

- Laboratory and desk based work includes teaching sessions where students themselves actively perform laboratory experiments and use microscopes for the examination of histological or pathological specimens. It also comprises the 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-guided exercises).
- Non-clinical animal work is characterised by 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 necropsies.

- Clinical activities are strictly hands-on procedures performed 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.

### 4.1.2 Undergraduate curriculum followed by all students

» *This section makes a distinction between curriculum hours to be taken by every student and those offered as Elective subjects or within a given track. Specific information is also requested on subjects other than those specified in table 4.2.*

#### 4.1.2.0 Generalities

Described in the introduction chapter (see above)

**ELECTIVE SUBJECTS** (Corsi integrati professionalizzanti, Professionalizing Integrated Courses, CIP)

The CIP (duration: 120 hours, of which 104 practicals) is a compulsory course that every student must take before the beginning of "TIROCINIO". CIPs are designed to be practice training in specific clinical or non-clinical vocational disciplines. CIPs are carried out in the 5th year (9th semester) of curriculum and last 4 weeks. CIPs begin on Monday of the first week of October and finish at the end of October or in the first week of November. The Faculty Board organises 6 CIPs annually, characterised by specific veterinary training activities.

The first week of teaching (total 16 hours) is common to all the CIPs and must be taken by all the students. During this week, Veterinary State Officers, Practitioners and Representatives of Veterinary Professional Association are invited to teach specific topics related to professional knowledge (EU - Subjects 6a, 6b, 6c) (Table 5-Annex).

Subject <sup>o</sup>	Hours						Hours to be taken by each student
	Theoretical training		Supervised practical training			Other (F)	
	Seminars (A)	Self - directed learning (B)	Laboratory and desk based work (C)	Non-clinical animal work (D)	Clinical work (E)		
Animal Production							
EU-Subject 6a	4						4
EU-Subject 6b	8						8
EU-Subject 6c	4						4
<b>Total</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>

Table 5-Annex: Curriculum hours in EU-listed subjects to be taken as *Elective subjects* by all students, CIP, 1<sup>st</sup> week, common to all CIPs (for comparison with "NC-2009", see Tab. 4.2.a.6 in SER)

<sup>o</sup> 6a: Practice management; 6b: Veterinary certification and report writing; 6c: Career planning and opportunities

For each CIP, the Degree Course Board appoints a CIP Coordinator each year who is responsible for assessing the commitment made by individual students in meeting pre-defined educational objectives for each course. Elective subject Course Coordinators, Teaching Staff and/or Contract Professors verify daily the presence of each student and her/his involvement in practical activities.

The assessment of individual modules is considered evidence in progress and is expressed with an informal assessment from each teacher, while the acquisition of the specific skills is expressed by a mark of X/30.

CIPs activated in Academic Year 2009/10 are listed in Tables 6-Annex to Table 11-Annex).

Subject <sup>o</sup>	Hours						Hours to be taken by each student
	Theoretical training		Supervised practical training			Other (F)	
	Seminars (A)	Self - directed learning (B)	Laboratory and desk based work (C)	Non-clinical animal work (D)	Clinical work (E)		
Basic Sciences							
EU-Subject 2a				8			8
Clinical Sciences							
EU-Subject 3f					69		96
EU-Subject 3h					27		
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>96</b>	<b>0</b>	<b>104</b>

Table 6-Annex: Curriculum hours in EU-listed subjects to be taken as *Elective subjects* for CIP "Small and large animals surgery (\*)" (for comparison with "NC-2009", see Tab. 4.3.a in SER)

\* in order to complete this elective subject, the student must previously take the hours in Table 5-Annex;

<sup>o</sup> 2a: Anatomy (incl. histology and embryology); 3f: Field veterinary medicine (ambulatory clinics); 3h: Diagnostic imaging (including radiology)

Subject <sup>o</sup>	Hours						Hours to be taken by each student
	Theoretical training		Supervised practical training			Other (F)	
	Seminars (A)	Self - directed learning (B)	Laboratory and desk based work (C)	Non-clinical animal work (D)	Clinical work (E)		
Basic Sciences							
EU-Subject 2d			8				<b>24</b>
EU-Subject 2f			8				
EU-Subject 2i			8				
Clinical Sciences							
EU-Subject 3b						8	<b>8</b>
Food hygiene / Public health							
EU-Subject 5a				24			<b>72</b>
EU-Subject 5b				24			
EU-Subject 5c				24			
<b>Total</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>72</b>	<b>0</b>	<b>0</b>	<b>104</b>

Table 7-Annex: Curriculum hours in EU-listed subjects to be taken as Elective subjects for CIP "Food of animal origin microbial control and relative legislation" (\*) (for comparison with "NC-2009", see Tab. 4.3.b in SER)

- \* in order to complete this elective subject, the student must previously take the hours in Table 5-Annex;  
<sup>o</sup> 2d: Genetics (including molecular genetics); 2f: Toxicology (including environmental pollution); 2i: Epidemiology; 3b: pathology (including pathological anatomy); 5a: Inspection, and control of animal foodstuffs or foodstuffs of animal origin and the respective feedstuff production unit; 5b: food hygiene and technology; 5c: Food science including legislation.

Subject <sup>o</sup>	Hours						Hours to be taken by each student
	Theoretical training		Supervised practical training			Other (F)	
	Seminars (A)	Self - directed learning (B)	Laboratory and desk based work (C)	Non-clinical animal work (D)	Clinical work (E)		
Basic Sciences							
EU-Subject 2i			8				<b>16</b>
EU-Subject 2f			8				
Clinical Sciences							
EU-Subject 3b				32		8	<b>88</b>
EU-Subject 3i					24		
EU-Subject 3m				24			
<b>Total</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>56</b>	<b>24</b>	<b>8</b>	<b>104</b>

Table 8-Annex :Curriculum hours in EU-listed subjects to be taken as Elective subjects for CIP "Laboratory diagnostic of animals' disease" (\*) (for comparison with "NC-2009", see Tab. 4.3.c in SER)

- \* in order to complete this elective subject, the student must previously take the hours in Table 5-Annex;  
<sup>o</sup> 2f: Toxicology (including environmental pollution); 2i: Epidemiology; 3b: pathology (including pathological anatomy); 3i: Reproduction and reproductive disorders; 3m: Propaedeutics (including laboratory diagnostic methods)

Subject <sup>o</sup>	Hours						Hours to be taken by each student
	Theoretical training		Supervised practical training			Other (F)	
	Seminars (A)	Self - directed learning (B)	Laboratory and desk based work (C)	Non-clinical animal work (D)	Clinical work (E)		
Animal Production							
EU-Subject 4a				44			
EU-Subject 4b				36			
EU-Subject 4c						6	<b>104</b>
EU-Subject 4d						6	
EU-Subject 4e				12			
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>92</b>	<b>0</b>	<b>12</b>	<b>104</b>

Table 9-Annex: Curriculum hours in EU-listed subjects to be taken as Elective subjects for CIP "Animal production and breeding techniques" (\*) (for comparison with "NC-2009", see Tab. 4.3.d in SER)

\* in order to complete this elective subject, the student must previously take the hours in Table 5-Annex;

<sup>o</sup> 4a: Animal production; 4b: Animal nutrition; 4c: Agronomy; 4d: Rural economics; 4e: Animal husbandry

Subject <sup>o</sup>	Hours						Hours to be taken by each student
	Theoretical training		Supervised practical training			Other (F)	
	Seminars (A)	Self - directed learning (B)	Laboratory and desk based work (C)	Non-clinical animal work (D)	Clinical work (E)		
Internal Medicine							
EU-Subject 3a							
EU-Subject 3d					8		
EU-Subject 3l					32		
EU-Subject 3m						8	<b>104</b>
EU-Subject 3n			8		32		
EU-Subject 4b						8	
EU-Subject 4g						8	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>8</b>		<b>72</b>	<b>24</b>	<b>104</b>

Table 10-Annex: Curriculum hours in EU-listed subjects to be taken as Elective subjects for CIP "Internal medicine and patient clinical management" (\*)

(for comparison with "NC-2009", see Tab. 4.3.e in SER)

\* in order to complete this elective subject, the student must previously take the hours in Table 5-Annex;

<sup>o</sup> 3a: obstetrics; 3d: clinical medicine and a surgery (including anaesthetics); 3l: Therapeutics; 3m: Therapeutics; 3n: Propaedeutics (including laboratory diagnostic methods); 4b: Animal nutrition; 4g: Animal ethology and protection.

Subject <sup>o</sup>	Hours						Hours to be taken by each student
	Theoretical training		Supervised practical training			Other (F)	
	Seminars (A)	Self - directed learning (B)	Laboratory and desk based work (C)	Non-clinical animal work (D)	Clinical work (E)		
Basic Sciences EU-Subject 2a				8			8
Clinical Sciences EU-Subject 3a EU-Subject 3b EU-Subject 3j EU-Subject 3k EU-Subject 3i EU-Subject 3n				32	12 12 16	8	88
Animal production EU-Subject 4e			8			8	8
<b>Total</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>40</b>	<b>40</b>	<b>16</b>	<b>104</b>

Table 11-Annex: Curriculum hours in EU-listed subjects to be taken as *Elective subjects* for CIP "Health management of food producing animals" (\*)  
(for comparison with "NC-2009", see Tab. 4.3.f in SER)

\* in order to complete this elective subject, the student must previously take the hours in Table 5-Annex;

- <sup>o</sup> 2a: Anatomy (incl. histology and embryology); 3a: obstetrics; 3b: pathology (including pathological anatomy); 3i: Reproduction and reproductive disorders; 3j: Veterinary state medicine and public health; 3k: Veterinary legislation and forensic medicine; 3n: Propaedeutics (including laboratory diagnostic methods)

### 4.1.3 Further information on the curriculum

» Provide the visiting team with highlights and any unusual or innovative aspects of the teaching programme, e.g. tracking and orientation programmes.

According to Faculty regulations, attendance to all academic activities is compulsory. Before the beginning of each semester, the Student Secretariat of the Faculty sends a list of students enrolled in the specific year to each teacher, in order to check their attendance. Attendance at theoretical lectures is monitored and/or checked by the teachers in the manner deemed most appropriate. Many teachers collect student signatures in the classroom. Attendance at practicals is also compulsory and it is checked, usually, by requiring the student to sign a register.

Finally, with a view to coordinating teaching, the Faculty Board appoints Coordinators for each integrated course of the Veterinary Medicine curriculum. The Coordinator, at the end of the course, notifies the Student Secretariat of the Faculty the names of students who have not complied with the requirements of attendance. The student who has not obtained the certificate of attendance for one or more course(s), the following year must enrol as “repeating” as the attendance at this course is compulsory (see Chapter 9).

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

- are such rotations a structured part of the training given to all undergraduate students?*
- the total number of days or weeks of such rotations*
- the year(s) in which they occur*
- 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)*
- the activities and case responsibilities that students are expected to undertake*
- the group sizes in the clinical rotations*

### **Generalities**

Clinical rotation is obligatory, full-time, intramural and extramural, clinical practice for all students. Training includes working on large and small, diseased or healthy animals, for clinical teaching. Cadavers or isolated organs are used for necropsy and clinical-pathological investigation (sample collections, fine-needle aspiration, etc). Pathological and non-pathological biological fluids are used for laboratory work. Cadavers or isolated anatomical regions (e.g. isolated limbs), are used in order to learn methods of examination and surgical techniques (e.g. suturing, troncular anesthesia, approaches to surgical techniques).

Students participate in the management of day hospital activities in companion and large diseased animals or patients hospitalized at the Veterinary Teaching Hospital (VTH). A mobile clinic service with a vehicle owned by VTH began in December 2010. Each area of professional training “TIROCINIO” is under the direct control of a Coordinator, Teaching Staff and Contract Professors with a low teacher: student ratio (1:1 to 1:5), and does not exceed six months, as indicated by Directive 36/2005/EU.

The competencies and skills acquired by the students during periods of professional training “TIROCINIO” are also certified in the “Libretto Diario”.

The skills are periodically checked by the Coordinators, Teaching Staff and/or Contract Professors, to permit an accurate assessment of student aptitude.

At the VTH, hands-on clinical activity by the students includes dealing with small animals (dogs and cats), large animals (cattle, horses and pigs), and exotic species. Students are actively involved in the examination, diagnosis and care of patients.

Professional clinical trainings “TIROCINIO” (see below) is done in the 5th year (10th semester) and students are involved full-time, without interruption, for a total of 12 weeks (6 weeks for “TIROCINIO of Surgery and obstetrics” and 6 weeks for “TIROCINIO of Internal medicine, Prophylaxis and Avian pathology”). Students spend 10 weeks intramural plus 2 weeks extramural. Extramural activity takes place on livestock farms in the area and is supervised by Contract Professors.

Clinical rotation is performed inside the same professional clinical training (e.g. TIROCINIO of surgery, diagnostic imaging and obstetrics) as well as with the other “TIROCINIO of Internal medicine, Prophylaxis and Avian pathology”.

### Professional training “TIROCINIO”

Students must acquire an additional 30 ECTS of professional training “TIROCINIO” (1 ECTS= 25 hours) corresponding at 750 hours of practical, hands-on training. “TIROCINIO” is organized during the 5th academic year from November to September of the following year, and replicates 6 times in order to subdivide students in small groups (Table 12-Annex).

Rounds	Start	Finish	Pause Christmas and Easter	Deadline presentation professional training
1 <sup>st</sup>	02/11/2009	11/12/2009	14/12/'09-06/01/'10	09/10/2009*
2 <sup>nd</sup>	04/01/2010	12/02/2010		13/11/2009
3 <sup>rd</sup>	15/02/2010	26/03/2010		15/01/2010
4 <sup>th</sup>	12/04/2010	21/05/2010	27/03 -11/04/2010	12/02/2010
5 <sup>th</sup>	24/05/2010	02/07/2010		16/04/2010
6 <sup>th</sup>	05/07/2010	30/09/2010		11/06/2010

Table 12-Annex: Rounds of Professional training “TIROCINIO”, academic year 2009-2010.

\* Before the beginning of each round, the Coordinator organizes the calendar of intramural, extramural practical activities performed with the collaboration of large animal (cattle and horses) Contract Professors.

At present, the “TIROCINIO” lasts 24 weeks, 6 weeks for each the following 4 subjects (2 clinical and 2 non-clinical, Table 13-Annex) as follows:

1. Internal medicine, Prophylaxis and Avian pathology
2. Surgery and Obstetrics
3. Food Hygiene and Public Health
4. Animal Production.

Professional training “TIROCINIO” subject	Type of activity	SDS MD 509*	ECTS n°	hours** n°	Hours intramural + extramural
Internal Medicine, Prophylaxis and Avian Pathology	Clinical	VET/05 VET/08 VET/03	7.5	188*	163 + 25
Surgery and Obstetrics	Clinical	VET/09 VET/10	7.5	188*	163 + 25
Food Hygiene and Public Health	non Clinical	VET/03 VET/04	7.5	188*	94 + 94
Animal Production	non Clinical	AGR/17 AGR/18 AGR/19	7.5	188*	163 + 25

Table 13-Annex: Professional training “TIROCINIO” “OC-2001” per student

SDS: Scientific-Disciplinary Sector as follows: AGR/17: General Animal Husbandry; AGR/18: Feeding and Nutrition; AGR/19 = Special Animal Husbandry; VET/04 = Food Hygiene; VET/05 = Infectious Disease; VET/06 = Parasitology and Parasitic Diseases; VET/08=Internal Medicine; VET/09= Surgery; VET/10 = Obstetrics and Gynaecology.

\*\* hours rounded off

During professional training “TIROCINIO”, the student finishes his professional training and refines professional abilities. The method of teaching is characterized by continuous full-time training, intramural and extramural, with active participation by the student:

- intramural clinical activities (internal medicine, surgery, diagnostic imaging, obstetric and animal reproduction) at VTH and related facilities (labs, mobile clinic) on small and large animals as well exotics
- extramural professional trainings on large animals in collaboration with veterinary practitioners, nominated Contract Professors
- intramural and extramural activities of meat inspection and food hygiene (cattle, horse and swine slaughterhouses, milk, egg, beef, pork industries as well as fish industries)
- intramural and extramural activities Animal Production (Dairy Cow Farms, Pig Fattening Farms, Poultry flocks, Fodder, Wildlife) (see paragraph “obligatory extramural activity” in this Chapter).

Students involved in intramural Animal Production training are also involved in extramural training under the supervision of Contract Professors that work in specific areas of Animal Production.

Students during the intramural professional training in Animal Production “TIROCINIO” are involved by the Teaching Staff and by Support Staff in solving problems related to:

- calculation of the composition of rations for large and small ruminants, pigs, horses, dogs and cats by means of a specific program installed in the computer room
- management of genetic indexes in dairy cattle, by means of a specific program installed in the computer room
- recognition of the main breeds of cattle, sheep, goats, pigs, horses, dogs and cats, followed by a self evaluation trial
- morphological evaluation of cattle and horses.

#### **VETERINARY TEACHING HOSPITAL (INTRAMURAL) CLINICAL ROTATION**

As of October 2010, students attend professional training “TIROCINIO” in the VTH on week-days from 8:30 a.m. until 1:30 p.m. Afternoon emergency and intensive care starts at 1:30 p.m. and ends at 8:00 p.m. Students on night duty start their shift at 8:00 p.m. and finish at 8:30 the following morning. The 24-hr service is active every night and on week-ends 49 weeks per year.

Veterinary practitioners nominated “Contract Professor” operating in the VTH are listed below. Some of them are also Veterinary Residents (VR).

- 1 BRESCIANI CARLA (small and large animal obstetrics and animal reproduction, VR)
- 2 CALLEGARI DANIELA (small animal internal medicine, nephrology and urology)
- 3 CAMPARINI SARA (small animal surgery)
- 4 DI IANNI FRANCESCO (small and large animal obstetrics and animal reproduction, VR)
- 5 GANDOLFO EMANUELE (small animal internal medicine - dermatology)
- 6 GHIDINI FRANCESCA (infectious diseases)
- 7 LEONARDI FABIO (anaesthesiology)
- 8 MANFREDI SABRINA (radiology)
- 9 MAVROPOULOU ANTONIA (small animal internal medicine, cardiology, VR)
- 10 MELIS GABRIELE COSTANTINO (small animal internal medicine, VR)
- 11 PIANCASTELLI CHIARA (infectious diseases)
- 12 RAVERA MANUELA (small animal internal medicine)
- 13 VOLTA ANTONELLA (radiology)

### **Professional training “TIROCINIO” in Surgery, Obstetrics and Animal Reproduction, Diagnostic Imaging**

Students take part in the examination, diagnosis and surgical treatment of patients referred intramural (VTH) for a total of 163 hours and other 25 hours extramural (mobile clinic).

Students are divided into 4 groups of 2-3 persons each. Groups receive professional training at VTH and with a mobile clinic: 1 group attends Surgery and Anaesthesia and Emergency care, 1 group attends diagnostic imaging service, 1 group attends Obstetrics and Animal Reproduction, and 1 group attends the mobile clinic. At the end of each professional training period (see below), the groups rotate.

These activities include practicals/field work on small animals (dogs and cats), large animals (cattle, horses and pigs) and exotic species.

#### Attendance at Surgery, Anaesthesia and Emergency Care

Students' training: 69 hours

Place: VTH

#### *Anaesthesia and emergency care*

Students:

- participate in the preparation of the patient
- help compile medical records
- control the pre-anaesthetic patient preparation and study a correct anesthesiology and control pain protocol for every animal
- try to place the endotracheal tube and the intravenous catheter
- participate in the monitoring of the patient during the general anesthesia and during the pre and the post-anaesthetic steps
- learn the management of traumatized patients (first aid management of haemorrhage, wounds, internal organ damage, breathing difficulties and cardiac arrest)
- assist in formulating therapeutic protocols for hospitalized animals
- learn the resuscitation procedures.

Group of students acquire or refine (see Portfolio) the follow skills:

- sedation and pre-anaesthesia in small and large animals
- general gas anaesthesia in dog, cat, horse
- loco-regional analgesia in cows and horses
- therapy and pain control of hospitalized animals
- emergency approach to all common domestic animal species.

## *Surgery*

### Group of students:

- participate in the initial clinical examination of the patient
- help to prepare the surgery room, the surgical dressing, the surgical patient and the surgical field
- do main orthopaedic and traumatic surgical procedures and surgical procedures on soft tissues as assistants
- learn superficial and soft tissues diathermy and synthesis
- learn principles of sterilization of surgical equipment, principles of aseptic surgery and of postoperative room cleaning
- learn to do limb bandaging and immobilizing of small and large animals and participate to the monitoring of the patient during the postoperative steps.

### Students acquire the following skills:

- Semeiologic exam of the surgery patient (dog, cat, horse, ruminant)
- Surgery of small and large animals (soft tissues, orthopaedic and traumatology, ophthalmology, neurosurgery).
- Bovine surgery (podiatry and abomasal displacement reduction) is performed by Contract Professors, primarily, during extramural activities in cow dairy farms (25 hours).

## Attendance at Diagnostic Imaging

*Students' training: 25 hours*

Place: VTH

During the week of professional training "TIROCINIO" the student spends halftime in radiology facilities and halftime in ultrasound (US) service. In accordance with the amount of clinical work referred to radiology and US, students move from one diagnostic facility to the other.

### Daily training in radiology

Students, as they start their training period in radiology, review the use of personal protective equipment (lead gloves, apron, thyroid shields, lead glasses), the dosimeter, learn how to use the technique chart of the X-ray unit and review the different types of radiographic cassette. Students must be able to recognize positive contrast medium preparations (barium sulfate, iodinated contrast medium). Students are not allowed to stay in the radiology room during the X-ray exposure.

Routinely students are invited and advised to position the animal for any particular radiographic study requested during the daily routine work in the clinic, measure the anatomical region to be imaged and set the exposure values (technique chart).

Centering and collimation of the area of interest to be radiographed is made by the students under the advice and control of the teacher.

Film labelling is done by students. Darkroom administration is done by students and the teacher together. Students are invited to discuss film quality and the radiological signs suggestive of any diseases.

Daily training in ultrasound service

Students are invited to locate all the equipment, which is needed for the ultrasound examination (clipper, gel, cotton, liquid antiseptic, etc.). Students are advised to prepare the area for US examination and set the US unit for the examination (patient ID). Ultrasound training with phantom (fruit/vegetables in fluid-gel preparations) for echo-guided fine needle aspirate/biopsy is arranged for each student at least once during the US training period.

#### Attendance at Obstetrics and Animal Reproduction

*Students' training: 69 hours*

##### *Equine Obstetrics and Reproduction*

During the horse-breeding season, the students participate in equine reproduction activities:

Semen Collection Procedure. Students participate in all the gynaecological and ultrasound examinations of the mares hospitalised for artificial insemination with fresh, cooled and frozen semen.

Furthermore, students:

- perform rectal palpation and ultrasound gynaecological visit on an individual basis and participate to the pharmacological therapies for oestrus induction and ovulation control and artificial insemination, therapeutic post-ovulation infusion; where necessary, they participate in the Caslick's surgery
- take part in doing ultrasound pregnancy diagnosis. Where necessary they participate in twins' pregnancy reduction. In pregnant mares close to parturition, calcium investigation in colostrum for prediction of the delivery time is performed
- milk the mares for milk collection and mare's assistance during delivery
- give assistance and first care to the newborn. In case of neonatal and perinatal pathologies, students give their support for diagnosis and therapies
- in case of embryo transfer procedures, they are involved in the several part of the program.

After the end of the horse breeding season students carry out the same activities on the stallions and mares permanently present in the Faculty.

### *Bovine Obstetrics and Reproduction*

Students take very active part in performing the general examination of the cows. Students milk cows and execute the California Mastitis Test (CMT). Moreover, under the supervision of a clinician, they carry out a gynaecological and ultrasound examination of the genital tract. A number of cows ranging from 4 and 8, rotate every week ("INTRAMURAL CLINICAL TRAINING ON CATTLE") for multi-disciplinary clinical activities.

Students participate in the clinical management of hospitalized calves. Students actively participate in care assistance, feeding and therapy, under the supervision of Teaching Staff during the weekend.

Students participate during the different phases of a bovine embryo transfer program.

### *Small Animals Obstetrics and Reproduction*

Students participate as first assistant in feline ovariohysterectomy and orchietomy through weekly programmed cases, according to an agreement with Municipal animal shelter.

Students take part in obstetric clinical activities as consultations on pets or patients of the VTH. When necessary, students participate actively in fertility tests in dogs and artificial insemination of the bitch. Students also attend to ultrasonography pregnancy diagnosis as well as pseudopregnancy diagnosis in dog and cat. Students participate in caesarean sections in the dog and the cat. Students take part in diagnosis and treatment of canine prostate gland diseases.

## **Professional training "TIROCINIO" in Internal Medicine, Prophylaxis and Avian Pathology**

### Attendance at Internal Medicine

*Students' training: 150 hours*

Place VTH

Students are divided equally into 3 groups of 3-5 persons each.

Students participate with Teaching Staff and Contract Professors to record the anamnesis and share in basic physical examination and laboratory testing (e.g. biological matrix collection, basic methods in clinical pathology, electrocardiogram) of the patients. Results are discussed with Teaching Staff or Contract Professors for formulating a diagnosis through a path of differential diagnosis. Students become "tutors" of animals and accompany them in the path of professional consultations: Clinical Chemistry, Internal medicine Neurology, Cardiology, Dermatology, Ophthalmology. Students participate also in administration of therapy. (See also chapter 6.1.5.b.1 to 6.1.5.b.5)

Students perform daily monitoring of vital signs (rectal temperature, pulse and breathing), and participate in additional diagnostic procedures and medical therapy in hospitalized patients. Animals that need intensive care and/or hospitalization are managed by students under supervision of Teaching Staff and Contract Professors.

Students participate to the final visit and attend the discharge the patients (treatment and advice of veterinarian).

Hospitalized animals that die undergo necropsy and students must participate in cadaveric dissection and diagnosis.

#### Attendance at Prophylaxis and Avian pathology

*Students' training: 13 hours*

Place: labs facilities

Students also spend a part of the clinical rotation in Internal Medicine (13 hours) in professional training related to Avian pathology and Prophylaxis ("TIROCINIO of Internal medicine, Prophylaxis and Avian pathology). Usually students vaccinate poultry reared in the Faculty against Newcastle Disease under supervision of Teaching Staff or Contract Professors. In this occasion, different vaccinations ways are illustrated and practiced.

### **INTRAMURAL CLINICAL TRAINING ON CATTLE**

Described in SER Chapter 4 regarding the "NC-2009"

### **EXTRAMURAL CLINICAL ROTATION**

See SER Chapter 4.1.4. Obligatory extramural work

Veterinary practitioners nominated "Contract Professor" operating in extramural clinical work are listed below.

- 1 ABLONDI MARCO (consultant for cattle)
- 2 ANGELONE MARIO (consultant for horses)
- 3 BIACCA CRISTIANO (consultant for horses)
- 4 BONAZZI GIANCARLO (consultant for cattle)
- 5 BRIZZI ALBERTO (consultant for cattle)
- 6 CANALI UGO (consultant for horses)
- 7 CAROLI CORRADO (consultant for cattle)
- 8 CATELLANI IVANO (consultant for cattle)
- 9 CORTESI FEDERICO (consultant for cattle)
- 10 MARMIROLI MAURO (consultant for cattle)

- 11 POGLIACOMI BRUNO (consultant for cattle)  
 12 ROMANINI MARIA GABRIELLA (consultant for cattle)  
 13 VALENTI STEFANIA (consultant for horses)

» Describe clinical exercises in which students are involved prior to the commencement of clinical rotations.

Prior to the commencement of clinical rotations at the Veterinary Teaching Hospital and at consultation, students in the OC-2001 take part in practical sessions on following topics: Animal Physiology, Parasitology and Parasitic diseases, Radiology, Pathological Anatomy, Pharmacology, Infectious diseases and Avian pathology, Therapeutics, Propaedeutics, Medical Pathology and Internal medicine Surgical Pathology, Surgery including Anaesthesiology, Obstetrics and Animal Reproduction (Table 14-Annex). In these subjects, students learn how to handle animals, how to perform a clinical examination, how to administer medical and surgical therapies, how to identify and describe tissues and lesions associated with various diseases; students must acquire familiarity with radiographic techniques and learn how to perform and read laboratory tests results as well as the results of other diagnostic techniques (electrocardiography ultrasonography, etc.).

Topics	year/ semester	number of groups / number of students	hours
Physiology II and Endocrinology of Domestic Animal	II,2	3/15-20	12
Taking the temperature of horse, cow, dog and rabbit			2
Ovary, follicle and CL evaluation			4
Heart tone and frequency, blood sampling, respiratory volume and frequency, taking the temperature of horse, cow, dog and rabbit			4
ECG, heart tone and frequency, respiratory volumes and frequency			2
Evaluation of urine			2
Parasitology and Parasitic Diseases	II,2	4/12-15	9
Macroscopic identification of common ecto-endoparasites			2
<i>Copro-microscopic exam: preparation of different flotation solutions; concentration by flotation and sedimentation; direct examination and interpretation of fresh and stained faecal smears</i>			4
<i>Preparation and microscopic examination of skin scrapings and other biological samples for the diagnosis of mange</i>			1
<i>Preparation and staining of blood smears for the identification of blood parasites</i>			2

Radiology and diagnostic imaging.	III.2	3/15-20	28
<i>X-ray equipment (X-ray machine, cassettes, markers, lead protection devices, dosimeters, ext.) and imaging processing technique; X-ray Image quality: contrast and grey scale, collimation, centering, positioning, ext.</i>			6
<i>Principle of radiological interpretation (training on small animal and horse cases)</i>			10
<i>Ultrasonographic examination of the abdomen of dogs from the dog pound (set up of the ultrasound machine, preparation of the patient, training in finding the abdominal organs, principal landmarks, Doppler)</i>			12
Pathological Anatomy	III.1 and 2	2/30	59
Necropsy room and gross pathology			32
Histopathology			27
Pharmacology and Toxicology	III.1	3/15-20	14
Consultation of Informatore Farmaceutico			6
Pharmacovigilance: case report compilation			4
Identification of various toxics: strychnine, zinc phosphide, oxalates, methaldehyde			4
Surgical pathology	III.2	3/15-20	14
Photographic and radiographic images of the different pathologies (wounds, hypertrophic scars, keloids, sores, ulcers, bone fractures, pseudoarthrosis, articular luxations, artropathies (DJD), periostitis, osteitis, osteomyelitis) the topics of theoretical lessons are reviewed, focusing on exact definitions of the clinical presentations			
Infectious diseases and Avian pathology	IV.1	4/10-15	27
Poultry post-mortem examination			2
Serial dilution 1 in 2 and 1 in 10			1
Field trip on broiler farming			5
Field trip on broiler turkey farming			5
Chicks embryo inoculation (inoculation of chorio-allantoid sac, amniotic sac, yolk sac)			1
ELISA test			2
Serum neutralisation test			1,5
Immunofluorescence test			1.5
Interpretation of serological data on single animals or groups			4
Vaccination plans drawing in domestic animals			4
Obstetric and Animal Reproduction	IV.1 and 2	4/10-15	20
Manipulation of reproductive tracts of large animal (cows and mares), Identification of ovarian structures, simulation of ultrasonografic and manual pregnancy diagnosis, Simulation of AI and Introduction of a Foley's catheter for uterine flushing, Simulation of Caslick surgery and uterine sutures.			4
Rotation of gynaecological and ultrasonografic examination of the reproductive apparatus of cows and mares. This practicals is done totally by students on at least 8 cows and two mares, Simulation of in vivo artificial insemination.			8

Ultrasonographic examination of genital tract of small animal (Dogs and Cats) of non pregnant animals, Vaginal swabs and cytological examination and endoscopic examination of vagina and annexis all done directly by the students.			8
Propaedeutics and Medical Pathology	IV.1	4/10-15	45
Physical examination of a dog			3.5
Physical examination of a cat			3.5
Physical examination of a horse			3.5
Physical examination of a cow			3.5
Cardiological examination			3.5
Neurological examination			3.5
Ophthalmological examination			3.5
Urinalysis			3.5
Clinical pathology: haematology			3.5
Clinical pathology: clinical biochemistry			3.5
Ruminal fluid examination			3.5
Reading and interpretation of ECG tracings			3.5
Reading and interpretation of electrodiagnostic examination in clinical neurophysiology			3
Internal Medicine	IV.2	4/10-15	26
Interactive discussion and solving problem: seizures vs syncope			2
Interactive discussion and solving problem: pruritus and alopecia			2
Interactive discussion and solving problem: congestive heart failure			2
Interactive discussion and solving problem: dyspnoea and cough			2
Interactive discussion and solving problem: vomiting and diarrhea			2
Interactive discussion and solving problem: polyuria/polydipsia			2
Interactive discussion and solving problem: icterus			2
Interactive discussion and solving problem: paresis and ataxia			2
Interactive discussion and solving problem: abdominal distension			2
Interactive discussion and solving problem: weakness and exercise intolerance			2
Interactive discussion and solving problem: polyphagia			2
Interactive discussion and solving problem: anemia and hemorrhage			2
Interactive discussion and solving problem: fever			2
Therapy	IV.2	4/10-15	10
Veterinary prescription (recipe simple copy, recipe in triplicate copies, narcotics prescription) and related legislation			2
Drug delivery routes (parenteral, orally, topically, by aerosol) in small and large animals			4
The choice of materials for therapeutic administration			2
The monitoring of drug therapy in patients hospitalised			2
Anaesthesiology	IV.2	4/10-15	10

Anesthetic machines, supplementary equipment, possible rescue for human health associated with exposition and inhalation anaesthetics. Why monitoring? What monitoring? The animal is under a good anesthesia? Monitoring of the cardiovascular and respiratory apparatus.			3
General considerations, physical exam, collateral exams, classification of physical Status of the patient (ASA)			2
Films: anaesthetic valuation of patients with different clinical cases. Complications during anaesthesia induction. Neurologic complications during anesthesia. Emergency and complications of the respiratory and cardiovascular system. Others complications during anesthesia.			3
Films: Neonatal and geriatric patients. Cardiovascular and pulmonary dysfunctions. Renal and hepatic diseases, neurologic diseases, anesthesia for caesarean patients. Patients with endocrine and gastrointestinal diseases. Traumatized patients.			2
Operative medicine	IV.2	4/10-15	14
Principles of surgical asepsis. Sterilization and disinfection. Handling and storage of sterilized instruments/equipment. Daily care and maintenance of the operating room.			3
Preoperative assessment of the surgical patient. Positioning and draping. Preparation of the operative site. Preparation of the surgical team (surgical scrub, gloving, dressing room).			3
Surgical instrumentation. Instrument categories. Instrument care and maintenance (cleaning and autoclaving).			2
Soft tissue surgery: general principles and techniques (wound management and bandages). Suturing and haemostasis. Specific suturing materials. Surgical needles. Suture selection for different tissue types. Common suture techniques.			3
Orthopedic surgery: general principles and techniques. Fundamentals of orthopedic surgery and fracture management. Fracture fixation systems: external coaptation, external skeletal fixators, internal fixation. Biomaterials.			3
Surgery	IV.2	4/10-15	36
Clinical examination (dog, horse, cattle)			3
Examination of locomotor apparatus (dog, horse)			4
Orthopaedic examination (dog)			2
Orthopaedic examination (horse)			2
Diagnostic injections in lameness diagnosing (horse)			2
Examination of digesting apparatus (bovine)			1
Approach to a horse affected by lameness			2
Approach to a dog affected by orthopedic disease			2
Approach to a cattle affected by digestive diseases			2
Practical exercise of suturing and knotting			3
Practical exercise on enteroanastomosis of isolated bowel			3
Simulation of neurectomy on horse legs			4
Simulation of sesamoid apicectomy on horse legs			3

Table 14-Annex: Practical activities in which students are involved prior to the commencement of professional clinical trainings "TIROCINIO"

*Outline the student involvement in the emergency and hospitalisation activities of the clinics.*

Described in SER Chapter 4 of “NC-2009”

*» Specify student participation in the activities of the mobile clinic and indicate whether or not the hours spent in the mobile (ambulatory) clinic are included in those in Table 4.2.*

Described in SER Chapter 4 of “NC-2009”

#### **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 organisation. Please indicate the guidelines pertaining to this activity, and the manner by which it is assessed.*

Extramural work is compulsory for clinical and non-clinical activities and professional training “TIROCINIO”. Students must take extramural work for refining the basic theoretical knowledge and practical training received at the Faculty. Students must acquire, in the field, specific competences as indicated in “day-one skills”. Therefore the aim is to prepare the students to gain first-hand knowledge of veterinary practice. Table 15-Annex summarizes the obligatory extramural work that students must undertake as part of their course during the academic year 2010/11.

Nature of work	Minimum period <sup>2</sup>		Maximum period <sup>2</sup>		Year in which work is carried out <sup>1</sup>
	hours	% of total study time*	hours	% of total study time*	
Professional training "Tirocinio" Food Hygiene	94	12.3			5
Professional training "Tirocinio" Clinical Medicine, prophylaxis and avian pathology	25 <sup>^</sup>	3.3			5
Professional training "Tirocinio" Surgery, Obstetrics and animal Reproduction	25 <sup>^</sup>	3.3			5
Professional training "Tirocinio" Animal Production	25	3.3			5
<b>Total</b>	169	4.12**			

Table 15-Annex: Obligatory extramural work "OC-2001" that students must undertake as part of their course, Academic year 2010/11 (for comparison with "NC-2009", see Tab. 4.5 in SER)

<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 15-Annex

<sup>2</sup> Where applicable

\* calculated per each year on the total of study time comprehensive of all activities (from Table 3-Annex)

\*\* calculated on the total of the five years of course (from Table 3-Annex)

Students of the 5<sup>th</sup> year, during professional training "TIROCINIO" in Food Hygiene and Public Health, spend 94 hours in slaughterhouses and in food industries as follows: 30 hours in cattle and horse slaughterhouse, 30 hours in a pig slaughterhouse, 34 hours in food industries during official veterinary audit.

Students of the 5<sup>th</sup> year, during professional training "TIROCINIO Animal Production" visit livestock farms.

In particular, during the academic year 2009-2010, two veterinarians with a specific professionalism in pig production were involved in practical activity in the pig farms listed in Table 16-Annex.

Name	Areas
Societa' Agricola S. Antonio S.S Cascina Bellavere S.N. San Paolo (Bs) (km 111, 74 min)	Animal production and feeding, Personnel management, Animal flow
Società Agricola 3C Az. S. Maria Pralboino (BS) (94 km, 65 min)	Animal production and feeding, Personnel management, Animal flow
Az. Agr. Cà Emilia Besenzone (PC) (50 km, 40 min)	Animal production and feeding, Personnel management, Animal flow
Az. Agr. Il Girasole Campagnola Em. (RE) (50 km, 50 min)	Animal production and feeding, Personnel management, Animal flow
Campo Bò S.S. – Via Resga 29/A, Basilicogioiano, 43020 Montechiarugolo (PR) (22 km, 25 min)	Animal production and feeding, Reproductive efficiency, Genetic improvement
Azienda Agricola Badia SAS, Via Campana 80, Panocchia (PR) (21 km, 28 min)	Animal production and feeding, Reproductive efficiency, Genetic improvement
Azienda Ronchini-Ruggeri, Via Argini, Mamiano (PR) (26 km, 22 min)	Animal production and feeding, Reproductive efficiency, Genetic improvement

Table 16-Annex. Pig farms visited by the students during intramural activities in professional training in "TIROCINIO of Animal Production" (for comparison with "NC-2009", see Tab. 4.5.a in SER)

Veterinary practitioners nominated “Contract Professor” operating in intramural and extramural animal production are listed below.

- 1 BERETTI VALENTINO (pigs, intramural)
- 2 CORRADI FULVIO (cattle, extramural)
- 3 FRANCESCHI PIERO (milk, intramural)
- 4 MALACARNE MASSIMO (milk, intramural)
- 5 PISANI GIOVANNI MARIA (wildlife, intramural)
- 6 RANIERI ALESSIA (horses, intramural)
- 7 SOFFIANTINI CHIARA SERENA (wildlife, intramural)
- 8 VACCARI SIMONINI FRANCA (horses, intramural)
- 9 CERVI CLAUDIO (pigs, extramural)
- 10 GANDOLFI LUCA (cattle, extramural)
- 11 MAZZONI CLAUDIO (pigs, extramural)
- 12 MUSARO' CARMELO (wildlife, extramural).

Another aspect of extramural professional training in “TIROCINIO of Animal Production” concerns the study of wild fauna and game animals, under the supervision of Teaching Staff and/or Contract Professors involved in the management of the Regional Park “Boschi di Carega” (Sala Baganza, PR, km 23). During this training the students face the main problems of the management of these animals (censuses, reproduction, feeding, environmental impact). Further extramural training with visits to dairy farms, under the supervision of Contract Professors in ruminant nutrition, is performed.

Clinical and non clinical professional training is performed under supervision of Contract Professors.

Both clinical and non clinical activities are registered daily in a booklet named “Libretto dello Studente” by supervisor and signed by Coordinator of “TIROCINIO”.

#### **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.*

Described in SER Chapter 4 of “NC-2009”

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

As aforementioned, professional training “TIROCINIO of Food Hygiene and Public Health” provides 94 hours intramural and 94 hours extramural.

### Professional training at slaughterhouses

Described in SER Chapter 4 of “NC-2009”

### Food Industries and Official Veterinary Inspections

Described in SER Chapter 4 of “NC-2009”

Contract Professors in extramural professional training “TIROCINIO” in Food Hygiene and Public Health:

- 1 AIBINO EMANUELE (Veterinary State Officer)
- 2 CAVALLINI PIERUGO (Veterinary State Officer)
- 3 RAMACIOTTI LORENZO (Veterinary State Officer)
- 4 MAZZA GIANNI (Veterinary State Officer)
- 5 PELAGATTI PIERLUIGI (Veterinary State Officer)
- 6 MAGNANI ROSSELLA (Veterinary State Officer)
- 7 TRIPODI DAMIANO (Veterinary State Officer)
- 8 TROMBI ROSINA (Veterinary State Officer)

### 4.1.6 Ratios

Ratios are delineated from data reported in Table 3-Annex and 4a-Annex . The figures for the denominators are defined as follows:

Figure	Type of activity	Hours	Data from
A	Lectures	2424	Table 3-Annex
B	Seminars	16	Table 3-Annex
C	Self directed learning	0	-
D	Laboratory and desk based work	418 CIP excluded	Table 3-Annex
E	Non clinical animal work	485 CIP excluded	Table 3-Annex
F	Clinical work	576 CIP excluded	Table 3-Annex
G	Other	401 CIP excluded final thesis included	Table 3-Annex and Table 4a-Annex

R#	Variables	Values	Denomin.	Range (from SOP 2009)
R6	Theoretical training (A+B+C)	2 440	1	0.51 - 0.36
	Supervised practical training (D+E+F)	1 479	0.61	
R7	Clinical Work (F)	576	1	1.88 - 2.21
	Laboratory and desk based work + non clinical animal work (D +E)	903	1.57	
R8	Self directed learning (C) <sup>1</sup>	3 076	1	0.51 - 7.87
	Teaching load (A+B+C <sup>1</sup> +D+E+F+G)	7 500	2.44	

<sup>1</sup> this Self directed learning includes "home study" not reported in Table 3-Annex.

#### 4.1.6.2 Special indicators of training in Food hygiene / Public health

R#	Variables	Values	Denomin.	Range (from SOP 2009)
R9	Total n° <i>curriculum</i> -hours Food Hygiene / Public Health <sup>2</sup>	428	1	still open
	Total n° hours veterinary <i>curriculum</i> <sup>1</sup>	4 095	9.57	
R10	Total n° <i>curriculum</i> -hours Food Hygiene / Public Health <sup>2</sup>	428	1	still open
	Hours obligatory extramural work in Veterinary inspection <sup>3</sup>	94	0.22	

Origin numerators, denominators:

- 1 Total as derived in Table 3-Annex
- 2 Total as derived in Table 4-Annex, Subject 5
- 3 Figures to be taken from Table 15-Annex.

## 4.2 Comments

»Please comment on:

- 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 the curriculum is structured and reviewed
- the major developments in the curriculum, now and in the near future
- the local conditions or circumstances that might influence the ratios in 4.1.6.

With the OC-2001, students receive widespread theoretical professional veterinary training that allows graduates to be skilled and competent in many areas: Veterinary Medicine, Food Hygiene and Public Health, Animal Production, Animal Health and Welfare. Thus, graduates in Veterinary Medicine at the FVMUP can enter into the labour market and are able to adapt to the different professional profiles required in the Region as well as in the Country.

The syllabus ensures that an adequate level in essential veterinary disciplines is taught in core subjects, and the amount of practical training is considered adequate for students to learn “day-one skills”.

As aforementioned, graduates in veterinary medicine have many job opportunities in private veterinary fields but nowadays, the possession of the degree is not sufficient itself for entering in the National Health Service “Servizio Sanitario Nazionale”. In fact, to enter in the National Sanitary Service the veterinarian must be in possession of a 3-year post-degree specialization diploma achieved in one of the following three areas: 1) Animal Health, 2) Food hygiene of animal origin products and their derivatives, 3) Livestock hygiene and livestock products hygiene.

Presently, three Specialization Schools are active in the Faculty, (see Chapter 12).

Knowledge is advancing in private and public veterinary medicine and the professional growing need continuing lifelong education, essential for students and practitioners as well as Veterinary State Officers. The Faculty annually organizes meetings regarding Lifelong education in favour to practitioners or Veterinary State Officers (see Chapter 11). Obtaining permission to visit and/or have the students get some hands-on training experience in pig and poultry farms is fairly difficult due to farmers fearing contamination from outside visitors.

## 4.3 Suggestions

See suggestions in SER Chapter 4

## Annex 4.2

### Details on Curriculum in veterinary studies active during the 2010/11 Academic Year at FVMUP.

New Curriculum (NC-2009): active 1<sup>st</sup> and 2<sup>nd</sup> years.

Old Curriculum (OC-2001): active 3<sup>rd</sup> to 5<sup>th</sup> years.

#### 1<sup>st</sup> year, 1<sup>st</sup> semester

SDS	Course/activity	module	teacher	ECTS	Lecture hours	Practice hours	Individual study hours	Final exam
FIS/07	Applied physics - Mathematic di base applied to biomedical sciences - Medical and biological information technology	Applied physics	Romeo	3	24	0	51	
MAT/06		Mathematic di base applied to biomedical sciences	(still open)	3	24	0	51	
INF- ING/05		Processing information systems	Mussi	5	32	12	81	
	<b>TOT</b>			<b>11</b>	<b>80</b>	<b>12</b>	<b>183</b>	<b>1</b>
VET/01	Histology Embryology - Zoology	General Veterinary Histology Embryology	Cacchioli	5	48	20	57	
BIO/05		Zoology	Bracchi	4	32	5	64	
	<b>TOT</b>			<b>9</b>	<b>80</b>	<b>25</b>	<b>121</b>	<b>1</b>
BIO/10	Chemistry propaedeutic to biochemistry	Chemistry	Merli	4	42	10	48	
BIO/10		Propaedeutic biochemistry	Ramoni	2	18	10	22	
	<b>TOT</b>			<b>6</b>	<b>60</b>	<b>20</b>	<b>70</b>	<b>1</b>
VET/01	Normal veterinary anatomy	Normal veterinary anatomy	Panu	3	24	20	31	
VET/01		Normal veterinary anatomy	Bo	1.5	18	0	20	
	<b>TOT</b>			<b>4.5</b>	<b>42</b>	<b>20</b>	<b>51</b>	<b>no°</b>
			<b>Total</b>	<b>30.5</b>	<b>262</b>	<b>77</b>	<b>424</b>	<b>3</b>

°The exam is taken in the one of the Normal Veterinary Anatomy course of the II semester.

(cont.)

**1<sup>st</sup> year, 2<sup>nd</sup> semester**

SDS	Course/activity	module	Teacher	ECTS	Lecture hours	Practice hours	Individual study hours	Final exam
BIO/10	Veterinary Biochemistry	Biochemistry 1	Merli	3.5	36	10	42	
BIO/10		Biochemistry 2	Ramoni	2.5	24	10	29	
BIO/12		Applied Biochemistry	Grolli	2	18	10	22	
	<b>TOT</b>			<b>8</b>	<b>78</b>	<b>30</b>	<b>92</b>	<b>1</b>
VET/01	Normal veterinary anatomy	Normal veterinary anatomy	Bo	3	24	20	31	
VET/01		Normal veterinary anatomy	Panu	2.5	18	20	25	
	<b>TOT</b>			<b>5.5</b>	<b>42</b>	<b>40</b>	<b>56</b>	<b>1</b>
AGR/01	Rural Economy - Agronomy - Botany	Rural Economy	Salghetti	2	24	0	26	
AGR/01		Agronomy	Bonazzi	2	24	0	26	
AGR/18		Botany	Superchi	2	18	0	32	
	<b>TOT</b>			<b>6</b>	<b>66</b>	<b>0</b>	<b>84</b>	<b>1</b>
[ingl]	English		Ubaldi	3	24	0	51	no*
VET/08	Pre professional internship Orientamento	Internal medicine	Dondi	1	0	25	0	
VET/01		Normal veterinary Anatomy	Ragionieri	0.5	0	12.5	0	
VET/09		Surgery	Del Bue	0.5	0	12.5	0	
	<b>TOT</b>			<b>2</b>	<b>0</b>	<b>50</b>	<b>0</b>	<b>no</b>
			<b>Total</b>	<b>24.5</b>	<b>210</b>	<b>120</b>	<b>283</b>	<b>3</b>

\* An evaluation is foreseen through a qualitative judgment.

(cont.)

**2<sup>nd</sup> year, 1<sup>st</sup> semester**

SDS	Course / Activity	Module	Teacher	ECTS	Lecture hours	Practice hours	Individual study hours	Final exam
VET/02	Physiology I - Ethology	Veterinary Physiology I	Grasselli	5	54	10	61	
VET/02		Veterinary Physiology I	Basini	3	30	10	35	
VET/02		Ethology	Grasselli	1	12	0	13	
	<b>TOT</b>			<b>9</b>	<b>96</b>	<b>20</b>	<b>109</b>	<b>1</b>
VET/05	Microbiology and immunology - Epidemiology	Microbiology and immunology	Ossiprandi	4	36	20	44	
VET/05		Veterinary Epidemiology	Bottarelli	4	36	20	44	
	<b>TOT</b>			<b>8</b>	<b>72</b>	<b>40</b>	<b>88</b>	<b>1</b>
VET/01	Veterinary Topographic anatomy	Veterinary Topographic anatomy	Gazza	3.5	30	20	38	
VET/01		Veterinary Topographic anatomy	Botti M.	3.5	30	20	38	
	<b>TOT</b>			<b>7</b>	<b>60</b>	<b>40</b>	<b>75</b>	<b>1</b>
AGR17	Husbandry and genetic improvement	Husbandry and genetic improvement	Sabbioni	5	54	10	61	
AGR17		Morpho-functional evaluation of domestic animals	Summer	1	12	0	13	
	<b>TOT</b>			<b>6</b>	<b>66</b>	<b>10</b>	<b>74</b>	<b>1</b>
			<b>Total</b>	<b>30</b>	<b>294</b>	<b>110</b>	<b>346</b>	<b>4</b>

(cont.)

**2<sup>nd</sup> year, 2<sup>nd</sup> semester**

SDS	Course / Activity	Module	Teacher	ECTS	Lecture hours	Practice hours	Individual study hours	Final exam
VET/02	Physiology II - Endocrinology	Endocrinology	Saleri	2	24	0	26	
VET/02		Endocrinology	De Rensis	0.5	0	10	3	
VET/02		Veterinary Physiology II	Saleri	2.5	24	10	29	
VET/02		Veterinary Physiology II	De Rensis	4	48	0	52	
	<b>TOT</b>			<b>9</b>	<b>96</b>	<b>20</b>	<b>109</b>	<b>1</b>
VET/03	General Pathology – Animal Physiopathology - Veterinary Immunopathology	General Pathology	Borghetti	4.3	48	5	53	
VET/03		General Pathology	Passeri	0.5	0	10	3	
VET/03		Animal Physiopathology	Borghetti	1.0	12	0	13	
VET/03		Veterinary Immunopathology	Borghetti	1.3	12	5	14	
	<b>TOT</b>			<b>7</b>	<b>72</b>	<b>20</b>	<b>83</b>	<b>1</b>
VET/06	Parasitology and parasitic diseases	Parasitology and parasitic diseases	Kramer	6	72	0	78	
VET/06		Parasitology and parasitic diseases	Grandi	1	0	20	5	
	<b>TOT</b>			<b>7</b>	<b>72</b>	<b>20</b>	<b>83</b>	<b>1</b>
AGR/19	Special Husbandry	Special Husbandry	Martuzzi	3	24	20	31	
AGR/19		Special Husbandry	Summer	3	24	20	31	
	<b>TOT</b>			<b>6</b>	<b>48</b>	<b>40</b>	<b>62</b>	<b>1</b>
VET/06	Pre-professional internship "ORIENTAMENTO"	Parasitology and parasitic diseases	Kramer	1	0	25	0	
AGR/19	Pre-professional internship "ORIENTAMENTO"	Special Husbandry	Sabbioni	1	0	25	0	
	<b>TOT</b>			<b>2</b>	<b>0</b>	<b>50</b>	<b>0</b>	<b>no</b>
			<b>Total</b>	<b>31</b>	<b>288</b>	<b>150</b>	<b>337</b>	<b>4</b>

(cont.)

**3<sup>rd</sup> year, 1<sup>st</sup> semester**

SDS	Course / Activity	Module	Teacher	ECTS	Lecture hours	Practice hours	Individual study hours	Final exam
VET/03	Pathological Anatomy I - II - Necroscopic Technique	Pathological Anatomy I	[still open]	4.5	48	10	55	
VET/03		Pathological Anatomy I	[still open]	1	12	0	13	
VET/03		Pathological Anatomy I	[still open]	0.5	0	10	3	
VET/03		Necroscopic Technique	[still open]	1	12	0	13	
	<b>TOT</b>			<b>7</b>	<b>72</b>	<b>20</b>	<b>83</b>	<b>no*</b>
AGR/18	Feeding and nutrition - Feeding and Feed techniques	Feeding and nutrition	[still open]	4	42	10	48	
AGR/18		Feeding and nutrition	[still open]	3	30	10	35	
AGR/18		Feeding techniques	[still open]	1	12	0	13	
	<b>TOT</b>			<b>8</b>	<b>84</b>	<b>20</b>	<b>96</b>	<b>1</b>
VET/07	Pharmacology - Toxicology - Chemotherapy	Pharmacology	[still open]	1	0	20	5	
VET/07		Pharmacology	[still open]	3	36	0	39	
VET/07		Toxicology	[still open]	3	24	20	31	
VET/07		Chemotherapy	[still open]	1	0	20	5	
VET/07		Chemotherapy	[still open]	1	12	0	13	
	<b>TOT</b>			<b>9</b>	<b>72</b>	<b>60</b>	<b>93</b>	<b>1</b>
			<b>Total</b>	<b>24</b>	<b>228</b>	<b>100</b>	<b>272</b>	<b>2</b>

\* The exam is taken in the one of Pathological Anatomy I-II- Necroscopic Technique course of the II semester.

(cont.)

3<sup>rd</sup> year, 2<sup>nd</sup> semester

SDS	Course / Activity	Module	Teacher	ECTS	Lecture hours	Practice hours	Individual study hours	Final exam
VET/05	Infectious disease I – Veterinary policy	Infectious disease I	[still open]	5	48	20	57	
VET/05		Veterinary policy	[still open]	2	24	0	26	
	<b>TOT</b>			<b>7</b>	<b>72</b>	<b>20</b>	<b>83</b>	<b>1</b>
VET/03	Pathological Anatomy I - II - Necroscopic Technique	Pathological Anatomy II	[still open]	5	60	0	65	
VET/03		Pathological Anatomy II	[still open]	1	0	20	5	
	<b>TOT</b>			<b>6</b>	<b>60</b>	<b>20</b>	<b>70</b>	<b>1</b>
VET/09	Diagnostic imaging - Veterinary Radiology – Surgical pathology	Diagnostic imaging	[still open]	3	18	30	27	
VET/09		Diagnostic imaging	[still open]	0.5	0	10	3	
VET/09		Veterinary Radiology	[still open]	3	30	10	35	
VET/09		Veterinary Radiology	[still open]	0.5	0	10	3	
VET/09		Surgical pathology	[still open]	2.5	30	0	33	
VET/09		Surgical pathology	[still open]	0.5	0	10	3	
	<b>TOT</b>			<b>10</b>	<b>78</b>	<b>70</b>	<b>102</b>	<b>1</b>
VET/04	Food hygiene and health technology and control	Food hygiene and health technology and control	[still open]	4	36	20	44	
VET/04		Food hygiene and health technology and control	[still open]	4	36	20	44	
	<b>TOT</b>			<b>8</b>	<b>72</b>	<b>40</b>	<b>88</b>	<b>1</b>
VET/03	Pre-professional internship “ORIENTAMENTO”	Pathological Anatomy I - II - Necroscopic Technique	[still open]	1	0	25	0	
VET/05	Pre-professional internship “ORIENTAMENTO”	Infectious disease I – Veterinary policy	[still open]	0.5	0	12.5	0	
VET/09	Pre-professional internship “ORIENTAMENTO”	Diagnostic imaging - Veterinary Radiology – Surgical pathology	[still open]	1	0	25	0	
VET/04	Pre-professional internship “ORIENTAMENTO”	Food hygiene and health technology and control	[still open]	0.5	0	12.5	0	
	<b>TOT</b>			<b>3</b>	<b>0</b>	<b>75</b>	<b>0</b>	
			<b>Total</b>	<b>34</b>	<b>282</b>	<b>225</b>	<b>343</b>	<b>4</b>
	Thesis		Chosen by the student	2		50	0	

(cont.)

**4<sup>th</sup> year, 1<sup>st</sup> semester**

SDS	Course / Activity	Module	Teacher	ECTS	Lecture hours	Practice hours	Individual study hours	Final exam
VET/05	Infectious disease II - Avian Pathology	Infectious disease II	[still open]	4.5	48	10	55	
VET/05		Avian Pathology	[still open]	3.5	36	10	42	
	<b>TOT</b>			<b>8</b>	<b>84</b>	<b>20</b>	<b>96</b>	<b>1</b>
VET/08	Medical Pathology - Medical Semeiotics	Veterinary Medical Pathology	[still open]	1	12	0	13	
VET/08		Veterinary Medical Pathology	[still open]	1	12	0	13	
VET/08		Veterinary Medical Pathology	[still open]	3	24	20	31	
VET/08		Veterinary Medical Pathology	[still open]	1	0	20	5	
VET/08		Medical Semeiotics and clinic veterinary methodology	[still open]	2	18	10	22	
VET/08		Laboratory Diagnostic	[still open]	2	18	10	22	
VET/08		Medical Semeiotics and clinic veterinary methodology	[still open]	1	0	20	5	
		<b>TOT</b>			<b>11</b>	<b>84</b>	<b>80</b>	<b>111</b>
VET/04	Inspection and control of food of animal origin	Inspection and control of food of animal origin	[still open]	6	72	0	78	
VET/04		Inspection and control of food of animal origin	[still open]	1	6	10	9	
VET/04		Inspection and control of food of animal origin	[still open]	1	6	10	9	
	<b>TOT</b>			<b>8</b>	<b>84</b>	<b>20</b>	<b>96</b>	<b>1</b>
			<b>Total</b>	<b>27</b>	<b>252</b>	<b>120</b>	<b>303</b>	<b>3</b>

(cont.)

4<sup>th</sup> year, 2<sup>nd</sup> semester

SDS	Course / Activity	Module	Teacher	ECTS	Lecture hours	Practice hours	Individual study hours	Final exam
VET/10	Obstetrics, Andrology and artificial insemination	Obstetrics, Andrology and artificial insemination	[still open]	4	36	20	44	
VET/10		Obstetrics, Andrology and artificial insemination	[still open]	3	24	20	31	
VET/10		Obstetrics, Andrology and artificial insemination	[still open]	2	0	40	10	
	<b>TOT</b>			<b>9</b>	<b>60</b>	<b>80</b>	<b>85</b>	<b>1</b>
VET/09	Surgical Semeiology – Operative Medicine - Anaesthesiology	Surgical Semeiology	[still open]	2.5	24	10	29	
VET/09		Surgical Semeiology	[still open]	0.5	0	10	3	
VET/09		Operative Medicine	[still open]	3	24	20	31	
VET/09		Operative Medicine	[still open]	0.5	0	10	3	
VET/09		Anaesthesiology	[still open]	2	18	10	22	
VET/09		Anaesthesiology	[still open]	0.5	0	10	3	
	<b>TOT</b>			<b>9</b>	<b>66</b>	<b>70</b>	<b>89</b>	<b>1</b>
VET/08	Veterinary medical therapy- Forensic Medicine, legislation and animal protection	Veterinary medical therapy	[still open]	4	36	20	44	
VET/08		Veterinary medical therapy	[still open]	1	0	20	5	
VET/08		Forensic Medicine, legislation and animal protection	[still open]	2	24	0	26	
	<b>TOT</b>			<b>7</b>	<b>60</b>	<b>40</b>	<b>75</b>	<b>1</b>
	Course on choice		(still open)	<b>4</b>	<b>32</b>	<b>0</b>	<b>68</b>	
VET/08	Pre-professional internship "ORIENTAMENTO"	Medical Pathology - Medical Semeiotics	(still open)	1	0	25	0	
VET/04	Pre-professional internship "ORIENTAMENTO"	Inspection and control of food of animal origin control	(still open)	0.5	0	12.5	0	
VET/05	Pre-professional internship "ORIENTAMENTO"	Infectious disease II - Avian Pathology	(still open)	0.5	0	15.5	0	
VET/10	Pre-professional internship "ORIENTAMENTO"	Obstetrics, Andrology and aartificial insemination	(still open)	1	0	25	0	
VET/09	Pre-professional internship "ORIENTAMENTO"	Surgical Semeiology - Operative Medicine - Anaesthesiology	(still open)	1	0	25	0	
VET/08	Pre-professional internship "ORIENTAMENTO"	Veterinary medical therapy- Forensic Medicine, legislation and animal protection	(still open)	1	0	25	0	
	<b>TOT</b>			<b>5</b>		<b>125</b>		<b>no</b>
			<b>Total</b>	<b>34</b>	<b>218</b>	<b>315</b>	<b>317</b>	<b>3</b>
	Thesis		Chosen by the student	<b>3</b>	<b>0</b>	<b>75</b>	<b>0</b>	

(cont.)

5<sup>th</sup> year, 1<sup>st</sup> semester

SDS	Course / Activity	Module	Teacher	ECTS	Lecture hours	Practice hours	Individual study hours	Final exam
VET/08	Veterinary Internal Medicine	Veterinary Internal Medicine	[still open]	3	30	10	35	
VET/08		Veterinary Internal Medicine	[still open]	2	18	10	22	
VET/08		Veterinary Internal Medicine	[still open]	1	0	20	5	
	<b>TOT</b>			<b>6</b>	<b>48</b>	<b>40</b>	<b>62</b>	<b>1</b>
VET/10	Obstetrics	Veterinary Obstetrics	[still open]	2	24	0	26	
VET/10		Veterinary Obstetrics	[still open]	1	0	20	5	
VET/10		Veterinary Obstetrics	[still open]	1	12	0	13	
VET/10		Veterinary Obstetrics	[still open]	0.5	0	0	13	
VET/10		Veterinary Obstetrics	[still open]	1	12	0	13	
VET/10		Veterinary Obstetrics	[still open]	0.5	0	0	13	
	<b>TOT</b>			<b>6</b>	<b>48</b>	<b>20</b>	<b>82</b>	<b>1</b>
VET/09	Veterinary Surgical clinic	Veterinari Surgical clinic	[still open]	5	48	20	57	
VET/09		Veterinari Surgical clinic	[still open]	1	0	20	5	
BIO/12		Cellular applied Biochemistry	[still open]	1	0	20	5	
	<b>TOT</b>			<b>7</b>	<b>48</b>	<b>60</b>	<b>67</b>	<b>1</b>
	Course on choice		(still open)	<b>4</b>	32	0	68	<b>1</b>
VET/08	Pre-professional internship "ORIENTAMENTO"	Veterinary Internal Medicine	(still open)	1	0	25	0	
VET/10	Pre-professional internship "ORIENTAMENTO"	Obstetrics	(still open)	1	0	25	0	
VET/09	Pre-professional internship "ORIENTAMENTO"	Veterinary Surgical clinic	(still open)	1	0	25	0	
	<b>TOT</b>			<b>3</b>	<b>0</b>	<b>75</b>	<b>0</b>	<b>no</b>
			<b>Total</b>	<b>26</b>	<b>176</b>	<b>195</b>	<b>279</b>	<b>4</b>

(cont.)

5<sup>th</sup> year, 2<sup>nd</sup> semester

SDS	Course / Activity	Module	Teacher	ECTS	Lecture hours	Practice hours	Individual study hours	Final exam
	Professional training "TIROCINIO"		(still open)	30		750		
	<b>TOT</b>			<b>30</b>		<b>750</b>		<b>no</b>
	Thesis		Chosen by the student	4		100		
			<b>Total</b>	<b>34</b>		<b>850</b>		

# Annex 5.1

**Università degli Studi di Parma**

Facoltà di Medicina Veterinaria

Corso di Laurea Magistrale in Medicina Veterinaria

(art 24 Regolamento didattico del Corso di Laurea in Medicina Veterinaria - 5029)

(LM42 DM 270/2004)

## “Portfolio”

(Registro individuale delle competenze/abilità acquisite)

(Personal booklet of Day-one skills)

Matricola n°: \_\_\_\_\_

Studente (Cognome e Nome): \_\_\_\_\_

Anno Accademico di iscrizione: \_\_\_\_\_

Il Portfolio è un diario che, in modo ordinato e progressivo, registra le competenze ed abilità acquisite dallo studente evidenziandone anche il livello di partecipazione al fare.

Le abilità acquisite verranno verificate dal docente di riferimento con l'apposizione della propria firma.

Il documento è rilasciato in copia unica e il suo smarrimento può comportare la ripetizione di alcune attività non diversamente registrate.

Il Portfolio deve essere conservato e gestito dallo studente e deve essere consegnato alla Segreteria Studenti al momento dell'iscrizione al tirocinio del 5° anno.

Portfolio is a book in which all the skills acquired by the students are recorded. These skills will be verified by the Professor in charge with his signature.

Only one copy of this document is given and its loss may required repetition of some activities not recorded yet.

The Portfolio must be conserved and handled by the student and will be delivered to the Student's Secretary Office at the time of the enrolment for the training (5<sup>th</sup> year).

Il Preside  
(The Dean)

*Approvazione Consiglio di Facoltà: 9/06/2010*

*Presentazione alle Parti Sociali: 15/06/2010*

### Legenda (Legend)

Strutture (Facilities):

LD = Laboratori Didattici (Didactic Laboratories)

AZD = Azienda Zootecnica Didattica Sperimentale (Sperimental Teaching Farm)

OVUD = Ospedale Veterinario Universitario Didattico (Veterinary Teaching Hospital)

CGM = Canile/Gattile Municipale (Municipal Kennels and cat's home)

MC = Macello Comunale (Municipal Slaughterhouse)

Attività formative Activities	Data Date	Struttura Facility	Abilità Skill	Certificazione Signature
<b>1. Terminologia anatomica</b>				
<b>Piani fondamentali e relativi termini di riferimento</b> <i>(Anatomic direction, terms and planes)</i>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>2. Determinazione dei punti di repere</b> <i>(Anatomical locations of veins frequently used for venipuncture):</i> dei principali vasi venosi utilizzati per prelievi e/o terapie:				
- animali da compagnia <i>(Companion animals)</i>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- animali da reddito <i>(Large animals)</i>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
per le anestesie loco-regionali e per la diagnostica per immagini <i>(for loco-regional anesthesia and for diagnostic imaging):</i>				
- animali da compagnia <i>(Companion animals)</i>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- animali da reddito <i>(Large animals)</i>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>3. Differenze anatomiche interspecifiche di particolare interesse clinico ed ispettivo</b> <i>(Interspecific anatomical differences of clinical and inspective interest)</i>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>4. Determinazione del sesso nella specie felina</b> <i>(Sexing a cat)</i>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....

Attività formative Activities	Data Date	Struttura Facility	Abilità Skill	Certificazione Signature
<b>5. Contenimento animali da compagnia: (Restraint of companion animals)</b>				
- corretto avvicinamento e conoscenza degli eventuali atteggiamenti di rifiuto dell'animale ( <i>Correct approach and knowledge of animal rejection attitude</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- introduzione e rimozione dalle gabbie ( <i>Placement and removal of patients from cages</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- applicazione della museruola o del laccio di contenimento ( <i>Muzzle an animal</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- applicazione del collare Elisabetta ( <i>Elizabethan collar application</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>6. Contenimento degli animali da reddito: (Restraint of large animals)</b>				
- corretto avvicinamento e conoscenza degli eventuali atteggiamenti di rifiuto dell'animale ( <i>Correct approach and knowledge of animal rejection attitude</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- applicazione della cavezza e conduzione a mano del cavallo ( <i>halter a horse and hand-leading a horse</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- contenimento di bovini e/o cavalli ( <i>Bovine/Equine restraint</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- contenimento di pecore e/o suini ( <i>Sheep/Swine restraint</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- contenimento di polli e/o conigli ( <i>Poultry/rabbit restraint</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>7. Parametri vitali (Vital signs):</b>				
- temperatura, ( <i>temperature</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- perfusione capillare ( <i>capillary perfusion</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- frequenza cardiaca, ( <i>heart rate</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- polso arterioso, ( <i>pulse</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- frequenza respiratoria, ( <i>respiratory rate</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- volemia, ( <i>volaemia</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- produzione di urine nelle 24 h ( <i>urine production in 24 h</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>8. Valutazione dei principali riflessi in un animale sano (Evaluation of main reflexes in healthy animals)</b>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>9. Determinazione dell'età (Determining patient age):</b>				
- animali da compagnia ( <i>companion animals</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- animali da reddito ( <i>large animals</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>10. Utilizzo di software per la gestione degli indici genetici e analisi scheda genetica di un riproduttore (Use of software for genetic indexes managing and analysis of the genetic certificate of a breeder)</b>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>11. Valutazione BCS (Body Condition Score) (BCS evaluation)</b>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....

Attività formative Activities	Data Date	Struttura Facility	Abilità Skill	Certificazione Signature
<b>12. Valutazione morfofunzionale di (morphofunctional evaluation of):</b>				
- cavalli ( <i>horse</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- cani ( <i>dog</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- bovini ( <i>cattle</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- ovini ( <i>sheep</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- suini ( <i>pig</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>13. Compilazione della scheda anagrafica e/o passaporto (Stud-book and /or passport)</b>				
- cavalli ( <i>horse</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- cani ( <i>dog</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- bovini ( <i>cattle</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- ovini ( <i>sheep</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- suini ( <i>pig</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>14. Riconoscimento, valutazione qualitativa e nutrizionale di alimenti per animali in produzione zootecnica (ruminanti, monogastrici, specie aviarie) (Sensory and nutritive evaluation of feeds for livestock – ruminants, monogastric species and bird)</b>				
- Fieni ( <i>hays</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- Insilati ( <i>silages</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- Alimenti semplici/mangimi ( <i>grains, protein supplements and by-products mixed feeds</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>15. Valutazione della dieta nei carnivori domestici (Diet evaluation in carnivorous)</b>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>16. Uso di software per la formulazione delle razioni (Use of software for diets formulation)</b>				
- cavalli ( <i>horse</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- bovini ( <i>cattle</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- ovini ( <i>sheep</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- suini ( <i>pig</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>17. Campionamento ufficiale di (Official sampling of):</b>				
- Latte ( <i>milk</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- Materie prime/mangimi ( <i>feeds/mixed feeds</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>18. Lettura ed interpretazione del certificato di analisi (Reading and interpretation of analysis certificate for):</b>				
- Latte ( <i>milk</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- Materie prime/mangimi ( <i>feeds/mixed feeds</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>19. Lettura ed interpretazione del cartellino di un mangime ((Reading and interpretation of label mixed feeds)</b>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....

Attività formative Activities	Data Date	Struttura Facility	Abilità Skill	Certificazione Signature
<b>20. Diagnosi diretta:</b> - Esecuzione di esame colturale da campioni di diversa origine (in vivo e post-mortem da mammiferi domestici e volatili) su specifici terreni ( <i>Direct Diagnosis: execution of microbiological exam from samples of different origin - in vivo and post-mortem mammalian and birds samples - on specific culture media and broths</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>21. Tecniche di isolamento batteriologico, metodologie di laboratorio per l'identificazione batterica, colorazioni semplici e complesse</b> ( <i>Techniques of bacteriological isolation, laboratory methods for bacteriological identification, simple and complex staining</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>22. Allestimento di antibiogramma mediante la metodica di Kirby-Bauer</b> ( <i>Preparation of an antibiogram by the Kirby-Bauer technique</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>23. Allestimento ed utilizzo delle colture cellulari per l'isolamento virale</b> ( <i>Cell culture processing and use for the isolation of virus</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>24. Diagnosi indiretta:</b> - Tecniche diagnostiche di tipo sierologico legate alla diagnosi delle malattie infettive batteriche e virali; prova di intradermotubercolinizzazione e loro interpretazione ( <i>Indirect Diagnosis: serologic techniques for the diagnosis of infectious diseases - bacterial and viral; intradermo-tuberculin test and interpretation</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>25. Diagnostica molecolare (PCR)</b> ( <i>Molecular Diagnostic Techniques: Polymerase Chain Reaction - PCR</i> )	.....	.....	<b>Ha partecipato</b> <i>Take part in doing</i>	.....
<b>26. Individuazione di appropriati programmi di profilassi per le varie specie animali</b> ( <i>Prophylaxis programs for the different animal species</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>27. Simulazione di studi epidemiologici mediante l'utilizzo di strumenti informatici e valutazione di significatività statistica</b> ( <i>Appraisal of data and simulation of epidemiologic studies using spreadsheets</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>28. Preparazione e colorazione di strisci ematici per l'identificazione di parassiti ematici</b> ( <i>Preparation and staining of blood smears for the identification of blood parasites</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>29. Test di Knott</b> ( <i>Knott test</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>30. Preparazione ed esame microscopico di raschiati cutanei e di altri campioni biologici per la diagnosi di rogna e di micosi superficiali e profonde</b> ( <i>Preparation and microscopic examination of skin scrapings and other biological samples for the diagnosis of mange and superficial and deep mycoses</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>31. Esame coproscopico: preparazione delle soluzioni per la flottazione, concentrazione per flottazione e per sedimentazione</b> ( <i>Coproscopic exam: preparation of different flotation solutions; concentration by flotation and sedimentation</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....

Attività formative Activities	Data Date	Struttura Facility	Abilità Skill	Certificazione Signature
32. Esame diretto ed interpretazione degli strisci fecali a fresco, colorati e colorati mediante IF ( <i>Direct examination and interpretation of fresh, stained and immuno-fluorescent stained faecal smears</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
33. Esame necroscopico (almeno 5) e compilazione del protocollo di necropsia ( <i>Necropsy exam – at least 5- and compilation of necropsy protocol</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
34. Esame anatomo patologico di organi ed apparati, tecniche di prelievo, conservazione ed invio al laboratorio di campioni cito-istopatologici ( <i>Pathological exam of organs and systems, sampling techniques, conservation and shipment of histopathological samples to the laboratory</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
35. Allestimento di preparati cito-istopatologici , tecniche di colorazione e lettura ( <i>Preparation of cytopathological and histopathological smears, stain techniques and interpretation</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
36. Protocolli di citofluorimetria per la caratterizzazione delle sottopopolazioni linfocitarie ( <i>Flow Cytometry protocols for lymphocyte immunophenotyping</i> )	.....	.....	<b>Ha partecipato</b> <i>Take part in doing</i>	.....
37. Isolamento di Salmonella spp, Listeria monocytogenes, Staphylococcus aureus, Campylobacter spp ( <i>Salmonella spp, Listeria monocytogenes, Staphylococcus aureus, Campylobacter spp isolation</i> )	.....	.....	<b>Ha partecipato</b> <i>Take part in doing</i>	.....
38. Conta batterica aerobia mesofila ( <i>Bacteriological count</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
39. Conteggio Enterobacteriaceae ed Escherichia Coli ( <i>Enterobacteriaceae and ed Escherichia Coli count</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
40. Elaborazione di un piano HACCP ( <i>Working out an Hazards Analysis, Critical Control Point plan</i> )	.....	.....	<b>Ha partecipato</b> <i>Take part in doing</i>	.....
41. Valutazione dei requisiti strutturali di un macello ( <i>Evaluation of the structural requirements of a slaughterhouse</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
42. Ispezione veterinaria ante e post mortem ( <i>Ante mortem and post mortem inspection</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
43. Procedure per il campionamento ufficiale nelle analisi sugli alimenti di origine animale ( <i>Procedures for official samplings on food</i> )	.....	.....	<b>Ha partecipato</b> <i>Take part in doing</i>	.....
44. Identificazione di specie e valutazione della freschezza dei prodotti della pesca ( <i>Species identification and control and evaluation of freshness and safety on seafood</i> )	.....	.....	<b>Ha partecipato</b> <i>Take part in doing</i>	.....
45. Esame semeiologico del paziente chirurgico ( <i>Semeiologic exam</i> ):				
- cane ( <i>dog</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
- gatto ( <i>cat</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
- cavallo ( <i>horse</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
- ruminanti( <i>ruminants</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
46. Compilazione della cartella clinica e refertazione ( <i>Compiling medical records</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
47. Esecuzione di bendaggio protettivo degli arti (piccoli e grandi animali) ( <i>Limbs bandages - small and large animals</i> )	.....	.....	Sa fare <i>Able to do</i>	.....

Attività formative Activities	Data Date	Struttura Facility	Abilità Skill	Certificazione Signature
48. Preparazione della sala chirurgica ( <i>preparation of surgery room</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
49. Preparazione e sterilizzazione del materiale chirurgico ( <i>Setting and sterilization of surgical instruments</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
50. Preparazione e vestizione del chirurgo ( <i>Surgical dressing</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
51. Preanestesia al paziente ( <i>Preanesthetic patient preparation</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
52. Anestesia: Impostazione del protocollo anestesilogico ed esecuzione di anestesia generale gassosa nel ( <i>General gas anaesthesia in dog, cat, horse; anaesthesiologic protocols</i> ):				
- cane	.....	.....	Sa fare <i>Able to do</i>	.....
- gatto	.....	.....	Sa fare <i>Able to do</i>	.....
- cavallo	.....	.....	Sa fare <i>Able to do</i>	.....
53. Intubazione oro-tracheale e monitoraggio ( <i>Placement of the endotracheal tube and monitoring of the patient</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
54. Preparazione del paziente chirurgico ed allestimento del campo operatorio ( <i>Preparing surgical patient and surgical field</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
55. Esecuzione di dieresi e sintesi dei tessuti molli superficiali ( <i>Superficial soft tissues diaeresis and synthesis</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
56. Monitoraggio del paziente in fase post-anestetica ( <i>Postanesthetic patient care</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
57. Monitoraggio del paziente in fase post-operatoria ( <i>Postoperative patient care</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
58. Procedure di disinfezione e pulizia della sala chirurgica ( <i>Postoperative room cleaning</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
59. Gestione del paziente traumatizzato ( <i>Traumatized patient management</i> )	.....	.....	Ha partecipato <i>Take part in doing</i>	.....
60. Partecipazione in qualità di assistente chirurgo ad interventi sui tessuti molli ( <i>Doing main surgical procedures on soft tissues as assistant</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
61. Partecipazione in qualità di assistente chirurgo ad interventi di ortopedia e traumatologia ( <i>Doing main orthopaedic and traumatic procedures as assistant</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
62. Assistenza ed esecuzione della terapia in animali ospedalizzati ( <i>Therapies of hospitalized animals</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
63. Esecuzione di anestesi loco-regionali nel cavallo ( <i>Loco-regional analgesia in horses</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
64. Conoscenza ed utilizzo dei sistemi di radioprotezione (guanti, camici, paratiroidi e occhiali piombati) ( <i>Knowledge and use of the personal protective equipment – lead gloves, lead apron, lead thyroid shield, lead glasses</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
65. Riconoscimento dosimetri ( <i>Recognize dosimeter</i> )	.....	.....	Ha partecipato <i>Take part in doing</i>	.....

Attività formative Activities	Data Date	Struttura Facility	Abilità Skill	Certificazione Signature
66. Posizionamento dell'animale per l'esecuzione degli esami nelle varie proiezioni (spessori radiotrasparenti, accessori per il contenimento, nastri adesivi...) ( <i>Position the animal for x-ray examination and use of the positioning devices - foam wedges, sand bags, strings, tape, ecc</i> )	.....	.....	<b>Ha partecipato</b> <i>Take part in doing</i>	.....
67. Misurazione area anatomica - utilizzo carta tecnica ( <i>Measurement of the anatomic part - technique chart</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
68. Interpretazione della carta tecnica - impostazione valori di esposizione ( <i>Technique chart interpretation - set up of exposure values</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
69. Collimazione del fascio radiogeno sulla regione di interesse e scelta della cassetta radiografica ( <i>X-ray beam collimation on the region of interest and selection of the correct x-ray cassette</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
70. Timbratura del radiogramma con fototimbro ( <i>Film labelling using a flasher block</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
71. Valutazione qualità dei radiogrammi e sistemi di lettura ( <i>Evaluation of film quality and film reading session</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
72. Gestione della camera oscura ( <i>Dark room administration</i> )	.....	.....	<b>Ha partecipato</b> <i>Take part in doing</i>	.....
73. Verificare la presenza del materiale necessario per eseguire l'esame ecografico (tosatrice, gel, cotone, garze, disinfettante, acqua calda,...) ( <i>Locate the equipment needed for the ultrasound examination - clipper, gel, cotton, liquid antiseptic, warm water, etc</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
74. Riconoscimento dei mezzi di contrasto positivi ( Solfato di Bario, m.d.c. iodati idrosolubili non ionici) ( <i>Recognize positive contrast medium - Barium Sulfate, non ionic water soluble iodated contrast medium</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
75. Preparazione della area di interesse per l'esecuzione dell'esame ecografico e sua disinfezione. Successiva applicazione del gel ( <i>Preparation of area of interest with a clipper and cleaning with warm water, surgical soap. Apply ultrasound gel</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
76. Settaggio apparecchio ecografico e scrivere l'ID del paziente ( <i>Set up ultrasound machine and insert the patient ID</i> )	.....	.....	<b>Ha partecipato</b> <i>Take part in doing</i>	.....
77. Esercitazione su "phantom" (contenitori con liquido/gel e frutta/verdura all'interno): individuazione della struttura, agoaspirati/biopsie ecoguidate ( <i>Ultrasound training with phantom: visualization of structures - fruits/vegetables in fluid-gel preparations, and echo-guided fine needle aspirate/biopsy</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
78. Raccolta, conservazione e preparazione di materiali biologici di interesse clinico ( <i>Collection, preservation and preparation of biological materials of clinical interest</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
79. Determinazione del peso del paziente ( <i>Determining patient weight</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....

Attività formative Activities	Data Date	Struttura Facility	Abilità Skill	Certificazione Signature
<b>80. Esami di laboratorio (Laboratory exams):</b>				
- Esame emocromocitometrico ( <i>hemochrome exams</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- Esami biochimico-clinici ( <i>biochemical/clinical exams</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>81. Esami sulle urine (Urine exams)</b>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>82. Prelievo di sangue ed inserimento/fissaggio di agocannula (Blood sample and insertion/fixing of a butterfly):</b>				
- animali da compagnia ( <i>companion animals</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- animali da reddito ( <i>large animals</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>83. Somministrazione di farmaci con diverse modalità e vie di somministrazione (Choice routes of drug administration)</b>				
- Somministrazione compresse/capsule ( <i>tablets/capsules administration</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- Siringa dosata (cavalli/bovini) ( <i>measured syringe for bovine/equine</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- Intubazione naso/gastrica (cavallo) ( <i>oro-gastric intubation in the horse</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
Via parenterale negli animali da compagnia ( <i>Parenteral route in companion animals</i> ):				
- IM	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- SC	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- EV	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
Intrarticolare ( <i>intraarticular route</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
Via parenterale negli animali da reddito ( <i>Parenteral route in large animal</i> )				
- IM	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- SC	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- EV	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
Intrarticolare ( <i>intraarticular route</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>84. Prelievo campioni di urina da animali da compagnia e animali da reddito (Urine samples: companion animals and large animals):</b>				
- Cateterismo vescicale cane/gatto ( <i>bladder catheterization dog/cat</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- Cateterismo vescicale animali da reddito ( <i>bladder catheterization large animals</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- Raccolta campioni di normalmente evacuata urina ( <i>normal urine collection</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- Cistocentesi ( <i>cistocentesis</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>85. Organi di senso (Sense organs):</b>				
- Osservazione mediante otoscopio del condotto uditivo, membrana del timpano ed utilizzo pinze otologiche negli animali da compagnia ( <i>Otoscope observation in companion animals; use of otologic forceps</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
- Esame del fondo dell'occhio ( <i>Eye fundus exam</i> )	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....
<b>86. Centesi (Centesis)</b>	.....	.....	<b>Sa fare</b> <i>Able to do</i>	.....

Attività formative Activities	Data Date	Struttura Facility	Abilità Skill	Certificazione Signature
<b>87. Attuare una terapia fluida (Make a fluid therapy)</b>				
- EV	.....	.....	<b>Sa fare</b> Able to do	.....
- SC	.....	.....	<b>Sa fare</b> Able to do	.....
- Monitoraggio dello stato d'idratazione (Monitoring state of hydration)	.....	.....	<b>Sa fare</b> Able to do	.....
<b>88. Applicazione e rimozione bendaggi e ingessature (Application and removal of bandages/plasters)</b>	.....	.....	<b>Sa fare</b> Able to do	.....
<b>89. Esame elettrocardiografico (Electrocardiogram):</b>				
- Contenimento del paziente ed esecuzione dell'esame (patient restraint and exam)	.....	.....	<b>Sa fare</b> Able to do	.....
<b>90. Procedure per esami citologici e biopsie (Cytological exams and biopsies):</b>				
- Esecuzione agoaspirati e preparazione di strisci (fine-needle aspiration specimen and blood smears)	.....	.....	<b>Sa fare</b> Able to do	.....
- Prelievo di liquido articolare e cerebrospinale (articular and cerebro-spinal liquid sample)	.....	.....	<b>Sa fare</b> Able to do	.....
- Prelievo di campioni di midollo osseo (bone marrow samples)	.....	.....	<b>Sa fare</b> Able to do	.....
- Biopsie (Biopsies)	.....	.....	<b>Sa fare</b> Able to do	.....
- Esecuzione di raschiati cutanei (cutaneous scraping)	.....	.....	<b>Sa fare</b> Able to do	.....
<b>91. Preparazione di ricette (Recipes compilation)</b>	.....	.....	<b>Sa fare</b> Able to do	.....
<b>92. La consultazione dell'Informatore Farmaceutico (Consultation of Informatore Farmaceutico)</b>	.....	.....	<b>Sa fare</b> Able to do	.....
<b>93. Farmacovigilanza: compilazione della segnalazione (Pharmacovigilance: case report compilation)</b>	.....	.....	<b>Ha partecipato</b> Take part in doing	.....
<b>94. Calcolo della dose di farmaci nelle specie animali di interesse medico veterinario (Calculation of drug dose in animals of veterinary interest)</b>	.....	.....	<b>Ha partecipato</b> Take part in doing	.....
<b>95. Prelievo e preparazione del campione analitico; estrazione del principio attivo con solventi organici (Collection and preparation of the analytical sample; extraction of compound with organic solvents)</b>	.....	.....	<b>Sa fare</b> Able to do	.....
<b>96. Identificazione analitica di vari tossici: stricnina, fosforo di zinco, ossalati, metaldeide (Identification of various toxics: strychnine, zinc phosphide, oxalates, methaldehyde)</b>	.....	.....	<b>Ha partecipato</b> Take part in doing	.....
<b>97. Lettura ed interpretazione critica di un disposto legislativo di interesse veterinario (Read and interpret correctly a veterinary legal document)</b>	.....	.....	<b>Sa fare</b> Able to do	.....
<b>98. Lettura ed interpretazione critica di un intervento peritale di interesse veterinario (Read and interpret an expert document of veterinary interest)</b>	.....	.....	<b>Sa fare</b> Able to do	.....
<b>99. Valutazione dello stato di benessere in animali di interesse veterinario-zootecnico (Animal welfare evaluation)</b>	.....	.....	<b>Ha partecipato</b> Take part in doing	.....
<b>100. Valutazione documentale dell'attività di farmacovigilanza in strutture cliniche veterinarie (Documental evaluation of pharmacovigilance activity in veterinary clinical facilities)</b>	.....	.....	<b>Ha partecipato</b> Take part in doing	.....

Attività formative Activities	Data Date	Struttura Facility	Abilità Skill	Certificazione Signature
101. Esame del piede del bovino ( <i>foot examination in cattle</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
102. Diagnosi delle principali patologie del piede nel bovino: dermatite interdigitale, dermatite digitale, flemmone interdigitale e pododermatite asettica diffusa ( <i>Diagnosis of the main disorders of the bovine foot: interdigital dermatitis, digital dermatitis, interdigital necrobacillosis and aseptic diffuse pododermatitis</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
103. Trattamento dei principali difetti cornei del piede bovino: ulcera della suola, difetto della linea bianca ed erosione dei bulbi ( <i>treatment of the main horn defects of the bovine foot: sole ulcer, white line separation and heel horn erosion</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
104. Uso degli antibiotici nel trattamento delle patologie podali del bovino ( <i>Use of antibiotics in the treatment of bovine digital diseases</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
105. Prevenzione delle patologie podali del bovino ( <i>Prevention of the main foot diseases of cattle</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
106. Fertility test nello stallone ( <i>Fertility test in the stallion</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
107. Protocolli per la valutazione preparazione, la refrigerazione e la spedizione del seme nella specie equina ( <i>Protocols for the preparation, the refrigeration and the delivery of the semen in the stallion</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
108. Tecniche per la ripresa dell'attività ciclica della cavalla ( <i>Techniques for the resumption of the normal ovarian activity of the mare</i> )	.....	.....	Sa fare <i>Able to do</i>	.....
109. Attuare protocolli di sincronizzazione dell'estro: - nella cavalla ( <i>Oestrus synchronization programs in the mare</i> ) - nella bovina ( <i>Oestrus synchronization programs in the cow</i> )	..... .....	..... .....	Sa fare <i>Able to do</i> Sa fare <i>Able to do</i>	..... .....
110. Inseminazione strumentale: - nella bovina ( <i>Artificial insemination in cows</i> ) - nella cavalla ( <i>Artificial insemination in mares</i> )	..... .....	..... .....	Sa fare <i>Able to do</i> Sa fare <i>Able to do</i>	..... .....
111. Infusione antibiotica endouterina terapeutica e post-ovulazione nella cavalla e nella bovina ( <i>Post ovulatory and therapeutical antibiotic uterine infusion in the mare and in the cow</i> )	.....	.....	Ha partecipato <i>Take part in doing</i>	.....
112. Intervento di vulvoplastica di Caslick ( <i>Caslick's surgery</i> )	.....	.....	Ha partecipato <i>Take part in doing</i>	.....
113. Diagnosi clinica ed ecografica di gravidanza nella cavalla e nella bovina ( <i>Clinical and ecographic pregnancy diagnosis in the mare and in the cow</i> )	.....	.....	Ha partecipato <i>Take part in doing</i>	.....
114. Assistenza al parto nelle specie equina e bovina ( <i>Delivery assistance in the cow and in the mare</i> ) - Eutocico ( <i>Eutocic</i> ) - Distocico ( <i>Dystocic</i> ) - Cesareo ( <i>Caesareus</i> )	..... ..... .....	..... ..... .....	Sa fare <i>Able to do</i> Ha partecipato <i>Take part in doing</i> Ha partecipato <i>Take part in doing</i>	..... ..... .....

Attività formative Activities	Data Date	Struttura Facility	Abilità Skill	Certificazione Signature
<b>115. Induzione del parto:</b> - nella bovina - nella cavalla (Parturition induction in cows and mares)	.....	.....	<b>Sa fare</b> Able to do	.....
<b>116. Trattamento e cura della ritenzione placentare:</b> - nella cavalla - nella vacca (Treatment of retained placenta in the cow and in the mare)	.....	.....	<b>Ha partecipato</b> Take part in doing <b>Ha partecipato</b> Take part in doing	.....
<b>117. Assistenza e prime cure al neonato nelle diverse specie</b> (Assistance and first cares to the newborn in the different species)	.....	.....	<b>Ha partecipato</b> Take part in doing	.....
<b>118. Riduzione di gravidanze gemellari:</b> - nella cavalla - nella vacca (Twins pregnancy reduction in the mare and in the cattle)	.....	.....	<b>Ha partecipato</b> Take part in doing <b>Ha partecipato</b> Take part in doing	.....
<b>119. Patologie del neonato e loro terapia nella specie:</b> - canina - bovina - equina (Neonatal and perinatal pathologies in the canine, bovine and equine species and their therapy)	.....	.....	<b>Ha partecipato</b> Take part in doing <b>Ha partecipato</b> Take part in doing <b>Ha partecipato</b> Take part in doing	.....
<b>120. Embryo transfer nella bovina e preparazione delle riceventi</b> (Bovine embryo transfer procedures and preparation of the recipients)	.....	.....	<b>Ha partecipato</b> Take part in doing	.....
<b>121. Embryo transfer nella cavalla</b> (Equine embryo transfer procedures)	.....	.....	<b>Ha partecipato</b> Take part in doing	.....
<b>122. Visita ginecologica ed ultrasonografica nella specie:</b> - bovina (Rectal palpation and ultrasonographycal examination in the cow) - equina (Rectal palpation and ultrasonographycal examination in the mare)	.....	.....	<b>Sa fare</b> Able to do <b>Sa fare</b> Able to do	.....
<b>123. Esame della fertilità nel cane, prelievo e preparazione del seme e F.A. nella cagna</b> (Fertility test in the dog, collection and evaluation of the semen and A.I. in the bitch)	.....	.....	<b>Ha partecipato</b> Take part in doing	.....
<b>124. Diagnosi ecografica di gravidanza nella cagna/gatta</b> (Ecographic pregnancy diagnosis in the bitch/cat)	.....	.....	<b>Sa fare</b> Able to do	.....
<b>125. Diagnosi ecografica di iperplasia cistica endometriale nella cagna</b> (Ecographic diagnosis of endometrial cystic hyperplasia in the bitch)	.....	.....	<b>Ha partecipato</b> Take part in doing	.....
<b>126. Diagnosi e terapia delle complicanze post-partum nella cagna/gatta</b> (Diagnosis and therapy of post-partum disease in the bitch/cat)	.....	.....	<b>Ha partecipato</b> Take part in doing	.....



## Annex 5.2

### QUESTIONNAIRE OF EXTERNAL FACILITIES EVALUATION (TIROCINIO Animal Production)

Identification number .....

NAME OF THE CHOSEN FACILITY .....

.....

Training-ship period: From ..... to .....

Reason for choosing the facility:

- I knew it ..... ..
- It's convenient because it's close to my house ..... ..
- It has been suggested to me by teachers ..... ..
- Other ..... ..

(specify) .....

Required timetable .....

*I had the possibility to carry out practical activity at:*

*Milk analysis laboratory* .....

*Feed and forage analysis laboratory* .....

*Information laboratory for ration processing* .....

*Information laboratory for the management of bred animals* .....

*Swine farms* .....

*Bovine farms* .....

*Poultry farms* .....

*Equine farms* .....

*Wild animals' farms* .....

*Other farms (specify)* .....

My cooperation with the activity of the facility consisted of:

.....  
 .....  
 .....  
 .....

Was teaching material available? .....

If yes, what type? Books ..... Magazines ..... Audiovisual equipment .....

Was the tutor or personnel of the facility helpful in didactics? ...

OVERALL ASSESSMENT OF THE ACTIVITY CARRIED OUT

GOOD	SATISFACTORY	UNSATISFACTORY
------	--------------	----------------

I, the undersigned, express consent to the treatment of the data, to the senses of the Law n° 675/96, for the assessment of the requirements by the Commission of the Faculty of Veterinary Medicine of Parma, founded with the Decision of the Faculty Board (Responsible: the President of the Commission).

# Annex 5.3

## QUESTIONNAIRE OF THE EVALUATION UNIT



### UNIVERSITA' DEGLI STUDI DI PARMA

QUESTIONARIO DI VALUTAZIONE DEGLI INSEGNAMENTI a.a. 2010-2011 - (Legge 370/99)

#### AVVERTENZE

La valutazione della didattica è elemento fondamentale per misurare la qualità dell'offerta formativa delle Università. E' dunque importante la compilazione di questa scheda, assolutamente anonima, per valutare i singoli insegnamenti ed i corsi di laurea di questo Ateneo. I risultati che emergeranno dalla elaborazione dei questionari verranno comunicati alle Facoltà ed al docente, saranno pubblicati sul sito del Nucleo di Valutazione, ma soprattutto, opportunamente analizzati, saranno utili per migliorare l'offerta formativa dell'Ateneo. Si chiede, pertanto, una preziosa collaborazione nella attenta compilazione del questionario.

Grazie!

Facoltà: \_\_\_\_\_ Docente: \_\_\_\_\_

Corso di studio: \_\_\_\_\_ Insegnamento: \_\_\_\_\_

#### Giudizio attribuito ad ogni punteggio (salvo diversa indicazione)

1 Decisamente NO     
 2 Più NO che SI     
 3 Più SI che NO     
 4 Decisamente SI

#### L'INSEGNAMENTO E LA SUA ORGANIZZAZIONE

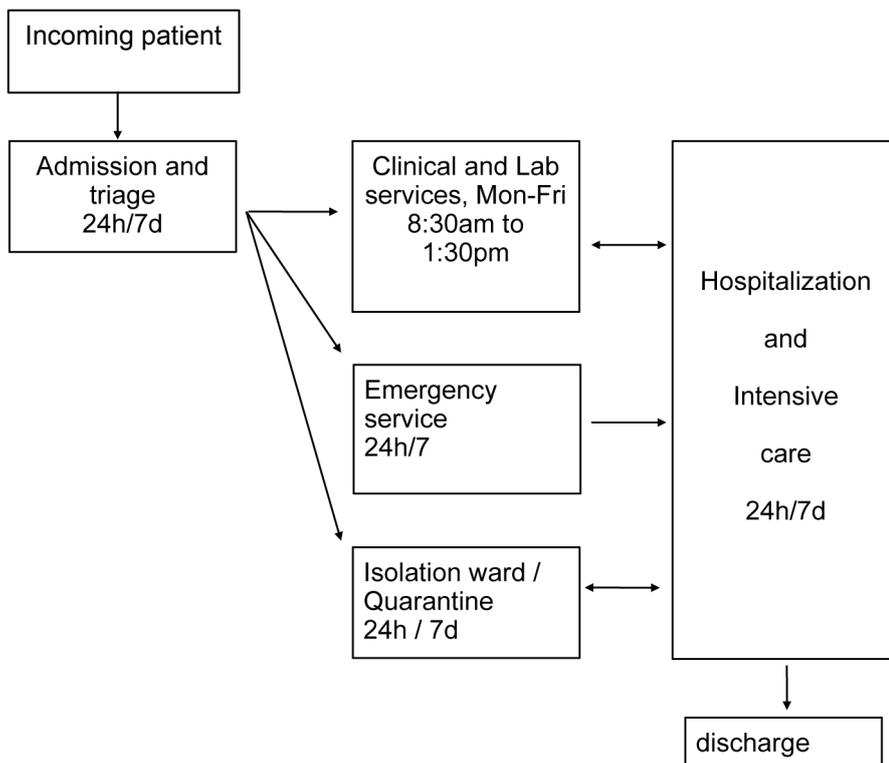
	Meno del 25%	Dal 25 al 50%	Dal 50 al 75%	Oltre il 75%	
1. Con quale frequenza sta seguendo le lezioni di questo insegnamento?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Le conoscenze preliminari possedute sono risultate sufficienti per la comprensione degli argomenti trattati in questo insegnamento?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Il carico di studio richiesto da questo insegnamento è proporzionato ai crediti assegnati?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Il materiale didattico ( <i>indicato e/o fornito</i> ) è adeguato per lo studio della materia?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Le attività didattiche integrative di questo insegnamento ( <i>esercitazioni, laboratori, seminari, ecc.</i> ) sono utili ai fini dell'apprendimento? ( <i>se non sono previste attività didattiche integrative, rispondere non previste</i> )	<input type="checkbox"/>				
6. Le modalità d'esame sono state definite in modo chiaro?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. Gli orari di svolgimento dell'attività didattica di questo insegnamento sono rispettati?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. Le aule utilizzate per lo svolgimento di questo insegnamento sono adeguate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### INTERESSE E SODDISFAZIONE

9. Sono interessato agli argomenti di questo insegnamento?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Sono complessivamente soddisfatto di come è stato svolto questo insegnamento?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

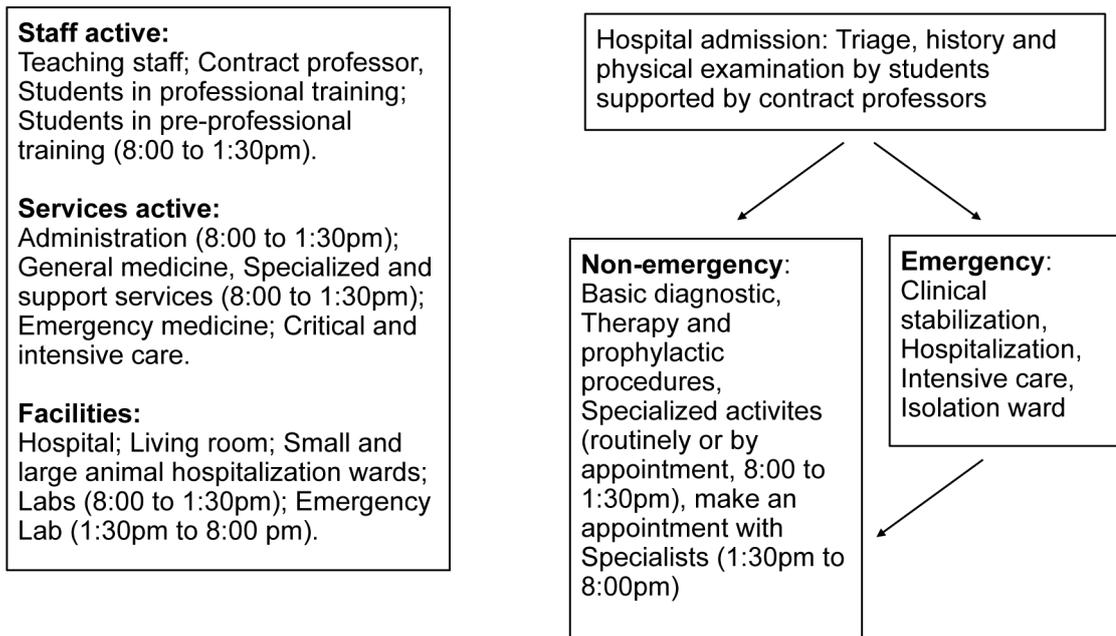
# Annex 7.1

## VTH Clinical workflow

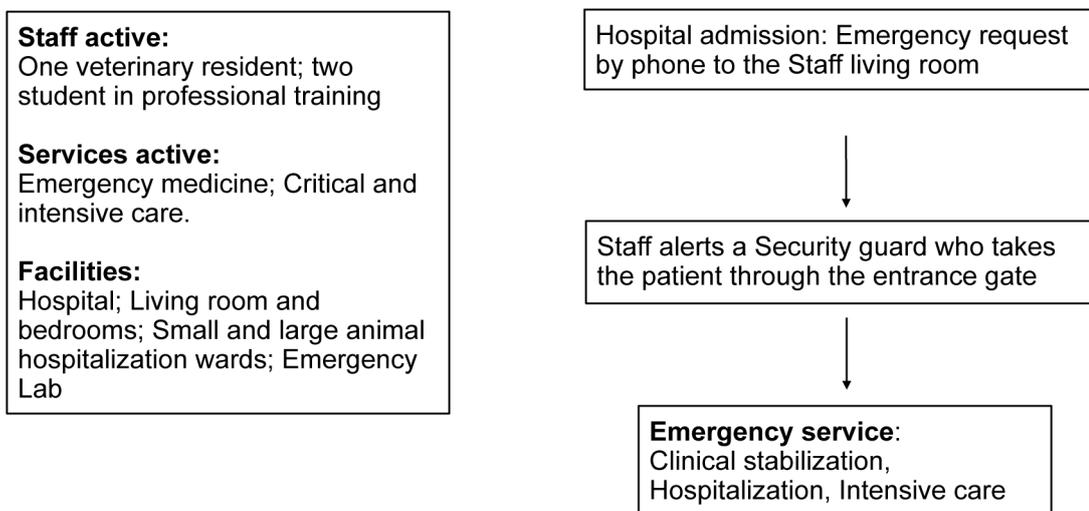


# Annex 7.2

## VTH Day activity (8am to 8pm) – Faculty entrance gate: open



## VTH Night activity (8pm to 8am) – Faculty entrance gate: closed



## Annex 10.1

### COMMENTS REGARDING BUDGETED SUPPORT STAFF (BSS)

In Table 10.1.1 the current number of budgeted support staff (BSS) is shown.

The University of Parma divides support staff into two main categories: “administrative staff” are those personnel working in accounting, organizational and bureaucratic fields. “Technical staff” includes all those employees working in analytical and data elaboration laboratories, in veterinary (and human) hospitals and laboratories and in other fields such as computer assistance, audiovisual, security and so on.

Table 10.5 shows the exact number of support staff personnel. While the FTE shown in Table 10.2 has been calculated with the addition of non-budgeted support staff, (NBSS), these have not been included in Table 10.1.1 due to the rapid turnover of this category of personnel, with subsequent change of parameters and characteristics.

DEPARTMENTS	Laboratory BSS	Administrative BSS	total
DAH	24	4,5*	28,5
DAPF	11	3,5*	14,5
<b>OFFICES</b>			
DEAN'S OFFICE	\	3	3
STUDENT SECRETARIAT		2	2
LIBRARY		3	3
SECURITY		1	1
<b>Total BSS</b>			<b>52,0</b>

Table 10.1.1. Personnel (expressed as nr. of people) of Budgeted Support Staff at the FMVUP during Academic Year 2009/10

\*As the Secretary of DAPF is also responsible for the administrative staff of DAH, she is considered 0,5 point each Department

Before 2001, FVMUP was organized in “Institutes” that were separate realities working together, and with a high degree of autonomy relating to management and career possibilities for BSS. In 2001, the all Faculties of the U of Parma had to re-organize into large, interdisciplinary departments that grouped together the Institutes. Since then, BSS depends directly on the Head of Department. According to a recent University regulation, the Head of Departments have assumed the role of employer, with the consequent honour and burden that this position implies.

Heads of departments are now in the position to manage a higher number of BSS compared to the past. However, there has been a lack of clear managerial guidance by the Central Administration and this makes it more difficult to manage staff. For this reason, Departmental organization of BSS may appear at times confusing or not perfectly balanced. There are several situations where BSS is insufficient, while in others there is a clear excess. The situation is further complicated by the current freeze in hiring new staff to replace retired personnel and by the lack of continuing education and training courses for BSS. In fact, according to recent national legislation (legislative decree n° 81 - 2008 items 36 and 37), University regulation (items 6) and departmental statute (item 22), employers are obligated to organize training and information courses for Department staff. Previously, it was up to the individual employee to request training courses, often via internet or by “word of mouth”. In the occasion of the EAEVE visit, both the Dean and the Heads of Department agreed with the suggestion that a representative of the BSS organize the course on “Safety in the working environment”. The percentage attending to this course was very high (only one colleague did not justify absence and did not request to attend to the course in the future). This first step to request the possibility to update courses to University is an opportunity that should be taken advantage of, in order to improve work conditions and social life of employees.

Tables relating to information about budgeted support staff (BSS) are reported below

<b>Budgeted Support Staff</b>			
	<b>Number</b>	<b>Percentage out of 52</b>	<b>Percentage out of 35</b>
Staff supporting teaching activities	29	55.77	82.86
Staff supporting research activities	29	55.77	82.86

**Percentages of Staff supporting teaching and researching activities are calculated out of a total number of BSS (52) and out of the total number of laboratory BSS (see Table 10.1.1).**

*Table 10.1.2 Number of departmental BSS who actually support teaching and research activities.*

Analysis of this data shows that BSS of the FVMUP employed in the teaching and research support activities is 55.77% of the total BSS (29/52 people) and 82.66% of laboratory BSS (29/35). Almost all BSS that work in laboratories are employed for teaching and research support activities.

<b>Budgeted Support Staff</b>		
	<b>Number</b>	<b>Percentage over 52</b>
Graduated (degree)	20	38.46
Graduate (high school)	28	53.85
	<b>(48)</b>	<b>(92.31)</b>
Primary school	2	3.85
No information	2	3.85
<b>Total</b>	<b>52</b>	<b>100</b>

Table 10.1.3 Educational situation of BSS

The percentage of BSS at the FMVUP that have completed higher education is notable, as 20 people (38.46%) have a University degree and 28 people (53.85%) have graduated from high school. Only 2 (3.85%) people ceased their education at the primary school level. Two people (3.85%) did not furnish any information.

<b>Budgeted Support Staff</b>				
	<b>Number</b>	<b>Percentage out of 52</b>	<b>Percentage out of 35</b>	<b>Percentage out of 29</b>
Scientific degrees	17	32.69	48.57	58.62
		out of 52	out of 17	
Humanistic degrees	3	5.77	17.65	

*The percentages of scientific degrees are calculated out of the total number of BSS (52) and out of the number of laboratory BSS (35) and out of the number of laboratory BSS who support teaching activities. The percentage of humanistic degree is calculated on the number of Department and not-Department administrative staff (see Table 10.1.1).*

Table 10.1.4 Scientific vs humanistic degree in BSS

<b>Budgeted Support Staff</b>				
	<b>Number</b>	<b>Percentage out of 52</b>	<b>Percentage out of 35</b>	<b>Percentage over 29</b>
PhD	3	5,77	8,57	10.34
Spec. School	2	3,85	5,71	6.90
PhD + Spec. School	1	1,92		
<b>total</b>	<b>6</b>	<b>11.54</b>	<b>14.29</b>	<b>17.24</b>

Table 10.1.5 Post degree education in BSS

The percentage of post-degree graduates is low (11.54%), probably due also to the wish to look for a job just after graduation and to the high cost of post-degree and post-graduation education.

	Number	Percentage over 52
English (only)	16	30.77
French (only)	7	13.46
Other language (Portuguese)	1	1.92
<b>Total</b>	<b>24</b>	<b>46,15</b>
English <b>and</b> French or other language	11	21.15
Italian only	15	28.85
No indication	2	3.85
<b>Total</b>	<b>52</b>	<b>100</b>

Table 10.1.6 Knowledge of foreign languages by BSS

From the data in Table 10.1.6, it is clear that only a limited number of BSS knows another language other than their native language: less than a half know at least one language at basic or independent level (self-assessment) (24 people equal to 46.15%). 15 people know only Italian (about 29%). Percentages are calculated on the total number of BSS (52).

	Number	Percentage over 52
<b>OFFICE</b>	30	57.69
Various software (included Office)	28	53.85

Table 10.1.7 Computer Skills by BSS

In Table 10.1.7 data relating to computer skills are reported. In this case, the problem is that some laboratory equipment requires specific software to work, so the colleagues who work with these instruments learn to use specific software. Administrative staff know how to apply special accounting software (CIA) that is completely unknown by laboratory staff. To have an idea of the computer knowledge of the BSS globally, we consider the knowledge of OFFICE package. In this case the percentage of the people who knows the operative package is about 57,69% (30 people).

	Female	Male
Number of subjects	30 (57,69%)	22 (42,31%)
Mean age per gender (years)	45	47
<b>Total mean age</b>	<b>46</b>	

Table 10.1.8 subdivision by gender (number and percentage) and mean age divided by gender for BSS (in year)

Regarding to gender distribution in the BSS, 30 people are females (57.69%) and 22 are males (42.31%), with a mean age of about 45 and 47 years respectively, with a mean between sexes of 46 years.

	Number		Percentage over 52
	Female	Male	
Workers part- time	9	1	
<b>Total</b>	<b>10</b>		<b>19%</b>

Table 10.1.9 Part-time workers in BSS

Part-time BSS is reported in Table 10.1.9. The percentage is low (10 on 52 equal to 19%) and it is interesting to note that among 10 workers who uses part-time 9 are women.

### Summarizing information in Tables regarding BSS

The report brings out the facts that marked critical situations in the BSS are represented:

1. Table 10.1.2 - Education level is good: BSS has a high number of graduates (high school plus degree, 92.31%) and the percentage of 53.85% of graduates in high school and 38.46% of graduates in degrees represented by people who support teaching and research activities and of 33.33% for administrative staff is comforting. Probably, if it should be possible for workers to attend to free courses (internal or external to university) and, best of all to degree course with final examination legally assumed to move ahead in career workers, it should be an incentive to stimulate self-education.
2. Tables 10.1.3 and 10.1.4 - percentage of 48.57% of Laboratory BSS graduated in scientific disciplines means that students who attend to practical activities can count on specialized workers whom have necessary skills and competence to support student's activities. Often BSS is employed also as support for undergraduates (preparing experimental thesis) or supporting graduates with fellowship to perform projects research. Professors supervise the research activity, but practical work is supported by BSS.

3. Table 10.1.5 - It is possible for graduate BSS attend PhD (with no grant). As PhD should be carried out of the working time, only few people can choose this option.
4. Table 10.1.6 - Less than a half of the BSS knows a language different from the mother one. This is not acceptable also in the prevision of the institution of courses in English in the future and also for personal education. University has the duty to organize language course for workers and sometimes it happens but this is not a regular activity.
5. Table 10.1.7 - Too few people know computer language and is able to use PC. This should be a problem in view of a dematerialization of the procedure (contact with the administration and so on) and in view of a computerization of the most part of the analytical procedure. University should organize computer courses to support workers in making a "computer culture".
6. Table 10.1.8 - The mean age (considering female and male) is high. The situation probably get worse as the enrolment of the support staff is blocked by financial problems at Italian and local level, so the mean age of BSS is destined to increase. For this reason it should be very important to improve computer and foreign language knowledge and support education.
7. Table 10.1.9 - Part-time workers are in low numbers. Most part-time workers are women (9 on 10 total) and it is comprehensible as in Italy less is done to support women in everyday life management. There is often no choice, as women have to manage children and parents without help from State. Kindergartens and nursing homes are expensive (these are only examples) or timetable did not overlap to working time so, often, women chose part-time working to remedy the family situation.

