

UNIVERSITÀ DEGLI STUDI DI TERAMO

UNIVERSITY OF TERAMO

FACULTY OF VETERINARY MEDICINE



EAEVE VISIT

8-12 OCTOBER 2007

SELF EVALUATION REPORT

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INTRODUCTION

BACKGROUND OF THE FACULTY'S HISTORY

The establishment of the Faculty of Veterinary Medicine at the University of Teramo dates back to 1990 with the implementation of the four-year program 1986-1990, after which the *Ministero dell'Università e della Ricerca Scientifica e Tecnologica* passed a decree giving way to the Faculty of Veterinary Medicine at the University "G. d'Annunzio" of Chieti – thus, bringing back the teaching of Veterinary Medicine in Abruzzo after over 150 years.

Emidio Martemucci, student at the *Real Collegio Veterinario* in Naples from 1826 to 1830, is said to return to the *Abruzzo Ulteriore* district in which Teramo was part of and offered himself to run the School of "Bassa Veterinaria" beginning in 1831. In fact, it was common that, on recommendation from the Mayors of various towns and the Governors of the Kingdom of the Two Sicilies who favoured the students' enrollment at the Faculty of Veterinary Medicine in Naples, those who had already earned a certificate in Veterinary Medicine and Surgery, returned to their own native places.

The main reason of establishing a School of Veterinary Medicine in Teramo depended on the abundance of cattle and horses in addition to the fact that Abruzzo "is a land of sheep farming". The regulation of the School had been drawn up since August 1831 as well as the lecture calendar. The subjects concerned six courses just as in the School of Naples: Hippognosis; Breed Treaty, Hippology and Veterinary Law; General and Therapeutic Pathology and Practical Medicine; Comparative Anatomy and Physiology; Theoretical, Operating and Clinical Surgery; Botany and Agriculture applied to Veterinary Medicine; Physics, Chemistry and Pharmacy.

The classes were held until 1859 – in the same year uprisings began which would have brought about the Unity of Italy.

Following the union of the Kingdom of the Two Sicilies to the Kingdom of Italy and the new socio-political centralist structure, many radical changes involved higher education as well. The only recognized as High Schools of Veterinary Medicine were those of Milan and Turin (one year later the School of Naples was added to the list). All the others were considered to be of minor importance and destined to be joint with the Royal Schools, the so-called "libere università" or, even worse, destined to cessation and disappearance as it happened to that of Teramo.

However, the establishment of the Faculty of Veterinary Medicine in Teramo is based not only on roots and reasons so far back.

In fact, in more recent times, following the establishment of the University Consortium of the Province Teramo (supported and financed by territorial public administrations and Bank Foundations in order to promote a local “Libera Università”) in 1962, the idea of setting up a Faculty of Veterinary Medicine in Teramo flashed with the intention of developing and strengthening cultural activities directly linked to and affecting animal breeding and care.

The *Istituto Zooprofilattico Sperimentale* of Teramo supported such initiative through cultural and logistic aid, together with the *Instituto Professionale di Stato dell’Agricoltura* and the *Amministrazione degli Ospedali e Istituti Riuniti* of Teramo. The Faculty of Veterinary Medicine of the University of Bologna gave its support to Teramo by making available their academic members in order to create an appropriate functional Faculty.

On September 18, 1972, the University Consortium of Teramo decided and financed the establishment and the activation of the Faculty of Veterinary Medicine in Teramo – at the same time approving a temporary statute and a teaching program.

Bureaucratic obstacles and organizational difficulties led the Consortium to not give way to such a decision. On the contrary, it was transformed into a financing of costs for the Faculty members’ salaries, whom almost entirely were from the Bologna campus branch. These professors gave lessons in Teramo to the students from Abruzzo and Molise regions who were enrolled in the first two years of the Veterinary Medicine Degree Course the Department of Veterinary Medicine at the University of Bologna. The Consortium’s commitment to this initiative lasted until 1990 – in other words, until the date of establishment and activation (or rather reactivation) of the Faculty by the *Ministero dell’Università*.

In November 1990, in the temporary location of Via Taraschi, Teramo, and as a separate Faculty within the University “G. D’Annunzio”, Chieti, it was made way for the beginning of classes: 58 students were enrolled in the first year of Veterinary Medicine Degree Course, according to the ministerial system in force in the other 11 Faculties already standing and running in Italy.

Beginning from the 1993-94 Academic Year, the Faculty of Veterinary Medicine, together with those of Political Science and Law, separated from the University of Chieti and gave birth to the University of Teramo. Since then, the Faculty of Veterinary Medicine has grown in regards to the number of degree courses offered (both as first and second level degree, specialization courses, PhD courses, masters degrees), number of enrolled students and Faculty members. The above results have been also confirmed by the CENSIS (*Centro Studi Investimenti Sociali*), the most authoritative national institute of socio-economic research, which, in its last annual report (2006) regarding the evaluation of the whole Italian university

system, gave for the second consecutive year the 7th position to the Faculty of Veterinary Medicine of Teramo in the classification list of the 14 Italian Veterinary Faculties.

CHAPTER 1

OBJECTIVES

1 - FACTUAL INFORMATION

1.1 THE FACULTY'S PRIMARY AND SECONDARY OBJECTIVES

The Faculty's primary and secondary objectives are teaching and scientific research.

The Faculty's primary teaching objective is the five-year specialist degree course in Veterinary Medicine.

Until academic year 1994/95, the Faculty followed the teaching syllabus set out in Table XXXIII appended to Presidential Decree no. 947 of the 29.08.1986, published in Official Journal no. 9 of the 12.01.1989 (Table XXXIII/86).

From academic year 1995/96 until academic year 2000/01 a subsequent teaching syllabus was used for the Veterinary Medicine Degree Course (Table XXXIII/95 under Ministerial Decree 05.06.95, published in Official Decree no. 226 of the 27.09.95) characterized by the introduction of more practical teaching, which had to account for 41% of the total teaching activities.

Since academic year 2000/01, following the establishment of specialist degree classes (Ministerial Decree 28.11.00, published in Official Journal no. 18 of the 23.01.01) a new teaching syllabus was introduced, organised on the basis of University Training Credits (UTC); for clarifications on the meaning of UTC, see Chapter 4.

During the current year (2007) the University Ministry is providing to issue a new decree regarding the different degree classes. In particular, after the issuing of the revision's decree of the first level degrees (three-year degrees), we are waiting in the near future for the revision of the specialist degrees (like Veterinary Medicine) that will be applied for the academic year 2008/09.

The teaching objectives to be achieved are those specified in the declaratory judgement of class 47/S, that is comprehensive of the Course of Specialist Degree in Veterinary Medicine (Ministerial Decree 28.11.00, published in Official Journal no. 18 of the 23.01.01, Annex 4.1). In particular:

- fundamental theoretical knowledge deriving from the basic sciences, in the prospect of subsequent professional application;
- ability to read and critically evaluate data relating to the state of health, well-being or illness of individual animals and livestock, and to interpret them in the light of the basic scientific knowledge, physiopathology and organ and system pathology and to

- conduct the medical and the surgical procedures best suited to removing the state of disease;
- knowledge of epidemiology, diagnosis, prophylaxis, pharmacological treatment and control of infectious and parasitic diseases in animals;
 - ability to read and critically evaluate the state of wholesomeness, hygiene, quality and any alterations in foodstuffs of animal origin that may compromise man's state of health; students must be aware of the production procedures of foodstuffs of animal origin;
 - knowledge of animal nutrition and feeding and breeding techniques;
 - ability to read and critically evaluate the impact of animal breeding on the environment.

The achievement of these general objectives is completed with the six-month practical apprenticeship that take place during the last year of the veterinary course (see Chapter 4).

Other secondary teaching objectives of the Faculty relating to the undergraduate course are:

- **Three-year degree course in Biotechnologies** (Class 1), set up in academic year 2001/02;
- **Specialist degree course in Biotechnologies of Reproduction** (Class 9S), set up in academic year 2004/05;
- **Three-year degree course in Animal Care and Welfare** (Class 40), set up in academic year 2002/03;
- **Schools of specialisation. There are currently three:** 1) Food Inspection; 2) Animal Health, Livestock and Science of Animal Breeding; 3) Equine Medicine and Surgery;
- **2nd level Masters:** 1) Veterinary Dermatology, activated in the academic year 2005/06; 2) Veterinary gastroenterology, activated in the academic year 2005/06.

Another objective of the Faculty is scientific research, with the primary task of developing knowledge in the Veterinary Sciences and, simultaneously, providing Teachers and Students with adequate up-to-date training, as research is fundamental to quality teaching. For further details see Chapter 13.

1.2 METHODS EMPLOYED TO ASSESS THE ACHIEVEMENT OF THE FACULTY'S OBJECTIVES

Between the different Commissions operating at the faculty, a primary role is played by the Teaching Commission.

In addition to the Dean or person delegated by him, the Teaching Commission is constituted by 2 Full Professors, 2 Associate Professors, 1 Researcher e 2 Students.

The Teaching Commission has the task of evaluating the efficiency of teaching organisation as a whole and contributing to overcoming any connected problems, in particular relating to those concerning coordination between teaching and professional module courses, between teachers, between teachers and students, between the Faculty and office services and the functioning of the tutor service.

In particular, the Commission's tasks include:

- a) Formulating the criteria for co-operation between the Faculty Council and University Administration;
- b) Expressing opinions and proposals on the establishment of new courses, refreshing courses and schools of specialisation;
- c) Providing indications and proposals concerning the maximum number of students allowed to enrol for each individual course, consistent with the availability of teaching staff and structures;
- d) Formulating the criteria for the recognition of courses, examinations and teaching credits concerning the passage of students from one course to another, even in other faculties, and periods spent in foreign universities, with particular reference to European teaching and research programmes. This latter function must be performed in agreement and co-operation with the University Commission: Relation with National and Foreign Institutions;
- e) Providing the Faculty with proposals and suggestions in order to reach an uniform distribution of teaching loads;
- f) Evaluating, together with the Faculty Council, the general patterns of assessment tests, degree and diploma examinations, in order to increase efficiency and balance evaluation methods;
- g) Expressing opinions on the co-ordination of programmes and teaching calendar of various courses;
- h) Drawing up lesson timetables;

- i) Evaluating the effectiveness of the tutor services and making proposals for improving its efficiency;
- l) Promoting investigations and initiatives in order to improve the quality of teaching organisation;
- m) Checking that students' rights are respected;
- n) Co-ordinating the teaching activities of any majors, directions or professional training modules of specialization courses.

The achievement of teaching objectives is evaluated through assessment tests, which are sat at the end of courses and assignments during the course.

Assessment tests consist in ascertaining the students' knowledge through oral tests that may also be preceded by written paper. The Examination Committee is composed by right of all teachers who have given lessons. This is because the teaching organisation, in addition to monodisciplinary courses, also included integrated courses constituted by 2 or more subjects, each one taught by a different teacher. Marks are given as thirtieths and pass mark is 18/30.

Since academic year 2000/01 final examinations of each course may only be sat outside the lesson period, in three sessions: January – February; two weeks during Easter holidays; June – September.

By law, students who fail the final examination of a course may re-sit it as many times are desired or necessary. Students may only sit exams once per each session.

The continuous exchange with veterinarians operating in both the public and private sectors constitutes a further, reliable index for the evaluation of the extent of achievement of teaching objectives. This exchange is developed to a greater extent in the course for the post-graduate State Exam for professional authorisation (where the Examination Committee is composed in an equal ratio by Faculty's teachers and Veterinarians who work in the public or private sectors).

2 - COMMENTS

1.3 DEGREE OF ACHIEVEMENT OF THE OBJECTIVES

When talking about the achievement of teaching objectives, a distinction must be made between theoretical and practical teaching.

Theoretical teaching is carried out in a complete and up-to-date manner. In particular, since 2002 teaching syllabi have been changed with the aim of harmonizing the courses among

them in order to make the teaching offered to students more suitable to market requirements and extend the achievement of the objectives to as many students as possible.

Despite this, the so-called off-course students are still numerous, even though the situation has been substantially improved in the recent years and their number is strongly reduced. With regard to practical teaching, this, at present, is difficult to realize adequately, in particular for the professional courses because of the awaited, but not yet initiated, construction of the new Faculty's building .

The Veterinary Teaching Hospital's building works have been advertised in 2003 but, nowadays, they still have not been started because of numerous bureaucratic obstacles.

Other reserves that we must mention concerning the achievement of the aims set are due to the large number of students enrolled in the degree course (number clausus of 90 students). This number makes difficult the division of students in small groups in order to realize the practical teaching activities. Moreover, the shortage of support staff hinders not only clinical services, but also the possibility of wider-scale patient hospitalisation and the practical activities of basic and non-clinical professional subjects, which does take place, although to a lesser extent than desired, thanks to the selfless commitment of Faculty's teachers and researchers.

1.4 MEASURES ADOPTED TO COMPLETELY FULFIL THE OBJECTIVES

The adoption of the new syllabus adopted in the academic year 2000/01 is the basis of a "new teaching formation" that should allow students to complete the degree course within acceptable timeframes. Teaching staffs have substantially modified their courses in order to give ever-greater space to practical lessons and by introducing a better relationship between basic and professional courses. In order to improve this relationship, a new radiographic and ultrasonographic anatomy course associated with the traditional anatomy course at the first year and practical teaching of semeiotics coupled to physiology were introduced.

In order to improve students' technical and professional education, special arrangements and initiatives have been devised with the Italian National Health Service, Zooprohylactic Institutes and in general with other public and private Institutes, Authorities and Business working in the Veterinary Medicine field, including meat processing plants and animal breeders.

1.5 THE FACULTY'S STRONG AND WEAK POINTS

The Faculty's strong points are:

- The average young age and the enthusiasm of teachers and researches;
- the strong growing motivation of a recently set up Faculty;
- the functionality and modernity of some teaching structures that are equipped with new and up-to-date tools;
- the preferential position as the bigger scientific Faculty within a small university;
- its location (middle Italy) in an area that makes it the Faculty of Veterinary Medicine most close to the capital (Rome);
- a particularly active and involved Teaching body with many national and international contacts.

The Faculty's main weak points are:

- the still not-realized built-up of the Faculty's definitive premises with consequently inadequate space for practical teaching activity of professional matters (clinical and pre-clinical);
- the average time required for students to graduate is too high;
- the high number of off-course students, a direct consequence of the previous point;
- despite the recent re-arrangement of the curriculum, the difficulty experienced by students in passing the first two years examinations;
- the shortage of teaching and research staff and especially auxiliary and nursing staff;
- the location in a small city with a low density of animal populations, either livestock, particularly bovine, and companion animals.
- absence of a canteen for students and teachers;
- the present location of the Faculty in separate premises.

CHAPTER 2

ORGANISATION

1 – FACTUAL INFORMATION

2.1 DETAILS OF THE ESTABLISHMENT

Faculty of Veterinary Medicine

Seats:

- Piazza Aldo Moro n. 45, 64100 Teramo: Dean Office, Department of Comparative Biomedical Sciences, Unit of Food Inspection of the Department of Food Sciences;
Tel. Front Desk + 39 0861266919.
- Viale Crispi 212, 64100 Teramo, Department of Veterinary Clinical Sciences, Unit of Animal Production, Nutrition and Feedstuffs and Unit of Pharmacology and Toxicology of the Department of Food Sciences;
Tel. Front Desk + 39 0861266968.

Professor Fulvio Marsilio

Dean of the Faculty of Veterinary Medicine

Tel. Dean's office: + 39 0861 266928 – 266863

Fax Dean's office: + 39 0861266929

e-mail Dean's office: spresvet@unite.it

The Faculty of Veterinary Medicine is part of the University of Teramo

Seat: Viale Crucioli 122 64100 TERAMO

Website: <http://www.unite.it>

Professor Mauro Mattioli

Rector of the University of Teramo

Tel.: + 39 0861 266501 – 266321 – 244463

Fax: + 39 0861 240552

e-mail: rettore@unite.it

2.2 THE FACULTY AND THE UNIVERSITY OF TERAMO

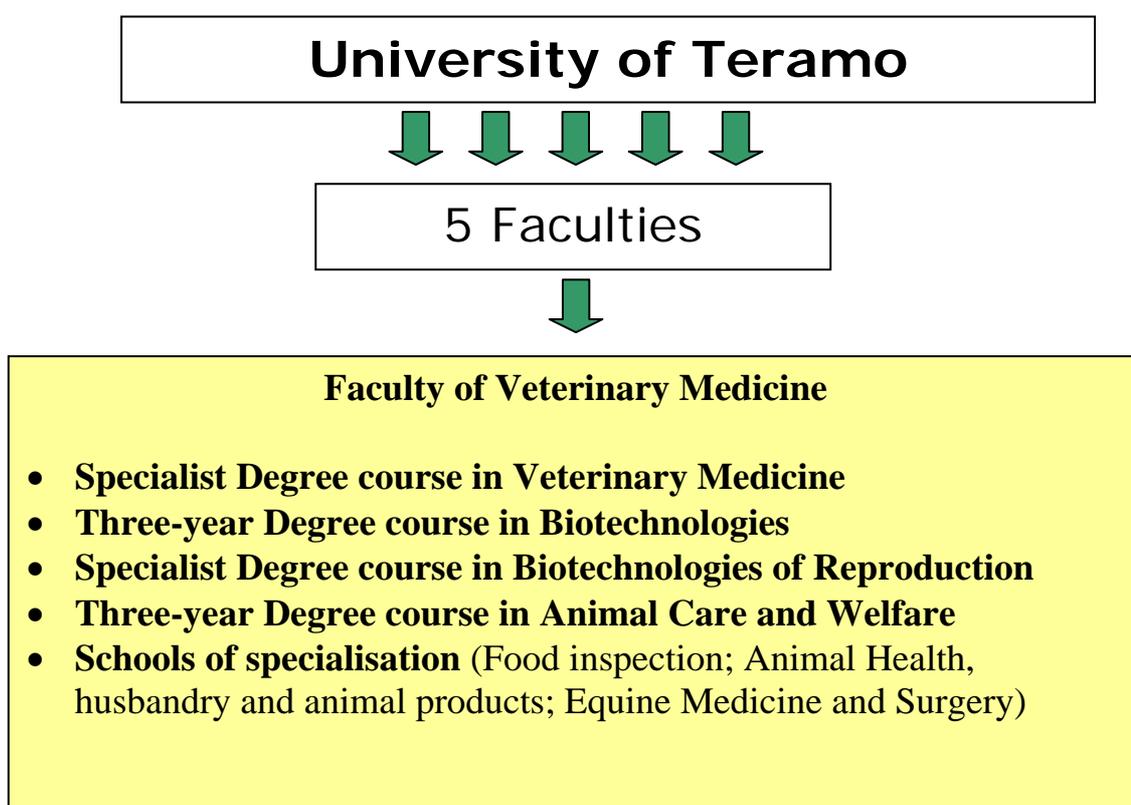
The University is organised into teaching structures (Faculties, composed of the various courses), research structures (Departments with teaching and researching aims) and service structures.

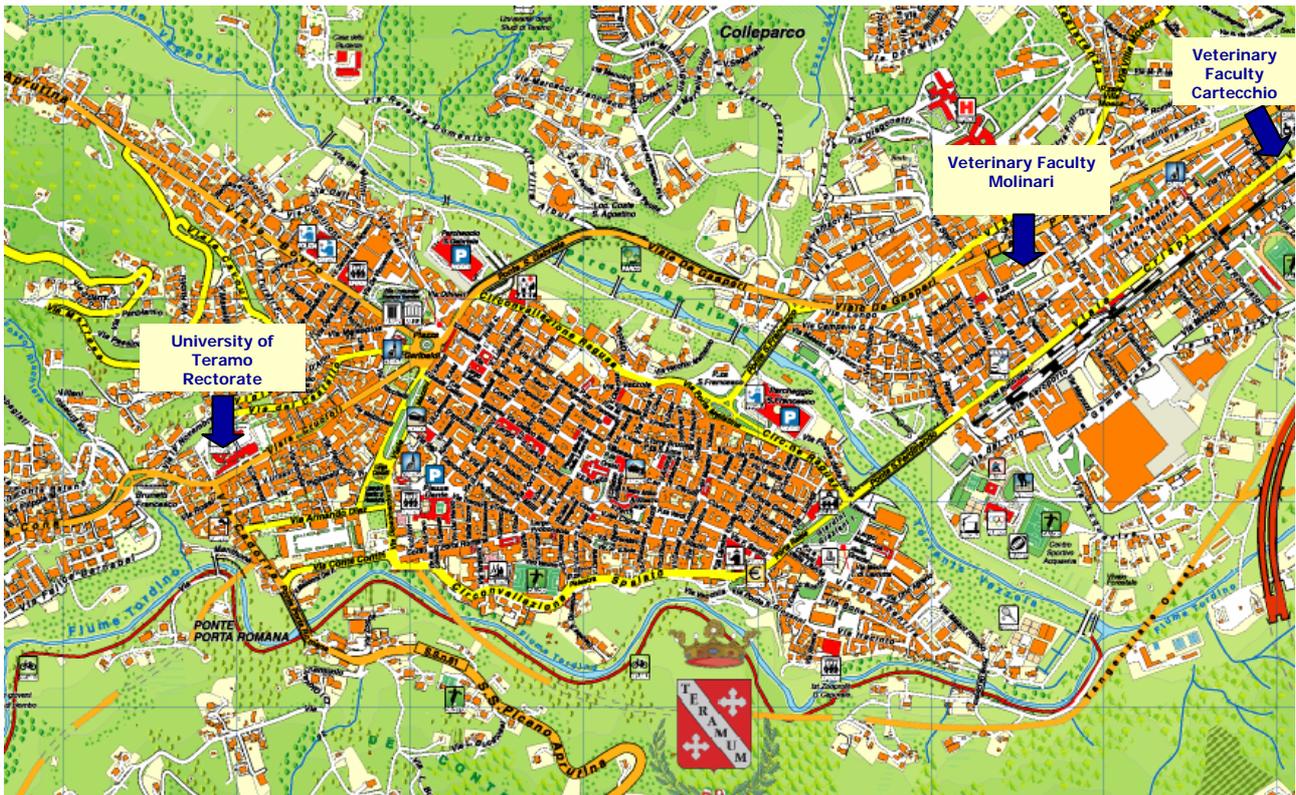
For the University Teaching Regulations (University Statute), these structures are provided with legal status and, according with article 33 of the Constitution, they have teaching, scientific, organizational, financial and bookkeeping autonomy; they have self-regulations con their own statutes and rules.

The University of Teramo is composed nowadays of 5 Faculties: Agricultural studies, Law, Communication Sciences, Political Sciences and Veterinary Medicine.

The University of Teramo carries out its objectives through structures organized in scientific and teaching homogeneous Units. It employs 66 Full Professors, 65 Associate Professors, 134 Researchers and 212 support personnel (situation as at 31/12/2006).

Support personnel is employed for technical, administrative and library's utilities and it is organized in offices ran by managers, following the directions of the Administrative Director, Administration Council and University Senate (Article 75 of the University Statute).





Location of the Rectorate of the University of Teramo and of the seats of the Veterinary Faculty

The main organs of the University, which define, amongst other things, the political orientation and directions of development are: Rector, the University Senate, the Executive Committee, the Board of Governors, the University's Self Evaluation Commission, the Research Commission (Boar of Heads of Department) and the Student Council (Article 28 of the University Statute).

The **Rector** officially represents the University and, in addition to summoning and chairing the University Senate and the Administration Council, he is responsible for supervising teaching, research and services structures and issuing the relevant directives. He/she also serves as Guarantor to the autonomy of the Teaching Body's Teaching and Research; he/she supervises the University's structures, the libraries and the patrimony (Article 35 of the University Statute); the Rector's term of office lasts for 4 years and he may be re-elected only once. The Rector appoints among Full Professors a vicarious Vice-Rector and, if necessary, other Vice-Rectors for specific matters. The Rector appoints the Statute and Regulations.

The **University Senate**, which is competent for all matters relating to the programming and co-ordination of the University's teaching and research activities, is composed by the Rector,

who chairs the Senate, the Deans of various Faculties and the representatives of the research structures appointed among the Departments' Directors. The vicarious Vice-Rector, the Administration Director, a representative of the technical, administrative and library's staff, the President of the Students' Council and the representatives of Student.

The **Executive Committee** is competent for all matters relating to the programming of the University's finances and assets and acts in accordance with the financial decisions of the University Senate. The Executive Committee issues all the executive financial measures and the Regulations for offices and services' organisation. It is composed by the Rector, who chairs the Council, the vicarious Vice-Rector, the Administration Director, a professor representative for each Faculty, a Researcher representative for each Faculty, a Government representative, appointed by the University Ministry, a representative of Local and Regional bodies and student representatives.

2.3 THE UNIVERSITY AND THE MINISTRY OF UNIVERSITY AND RESEARCH

Under law 168/1989 e article 33 of the Italian Constitution, Universities are granted autonomy with regards to in-house regulations and contracts (article 6, 1st and 2nd paragraph of the University Statute). The Ministry responsible for assigning research funds on a nationwide level is the Ministry of University and Research (MiUR)

MiUR, Ministry of University and Research

Piazza Kennedy 20

00144 Roma

<http://www.miur.it/>

2.4 ORGANISATION OF THE FACULTY

2.4.1 Faculty Organs

The teaching structures which must be set up at the Universities are Faculties and the School of specialisation (Law 7 August 1999, no. 341).

The Faculty is the fundamental structure for the organisation of the teaching activity, which consists in 5-years degree, 3-years degree and specialisation degree, each with its own Council.

The Faculty's primary task is to organise and co-ordinate the teaching activities of the degree courses and connected courses, by setting up the necessary regulations proposed also by the Faculty Teaching Commission.

The Faculty's teaching Regulations govern both teaching activities and the running of the Faculty and its organs and they are approved subject to the judgement of the Teaching Commission (Veterinary Medicine Teaching Regulation).

The faculties draw up medium term development plans and allocate teachers and researchers to the various scientific sectors and subjects in order to assure the coverage of all the courses taught and guarantee the success of the teaching activities, based on comments and suggestions from the courses and Departments in question, including the examination of objective data concerning the teaching load for each scientific and disciplinary sector. The allocation to the various scientific sectors and subjects of the positions available elected by the Faculty according to the Departments' proposals, requires special justification.

Organs include: the Faculty Council, the Dean; the Degree Course and Specialist Degree Course's Committees with their pertinent President; the specialisation schools' Committees and their relevant Directors (Art. 88 of the Statute).

The **Dean** is elected by a absolute majority of votes among all the full Professors of the Faculty Council for four years and may serve a maximum of 2 terms of office; he/she represents the Faculty, summons and chairs the Faculty Council and activates deliberations (Art. 89 of the University Statute). He/she may nominate a Vice-Dean and is a member by right of the University Senate. In particular, the Dean's tasks include:

- a) Overseeing the performance of all teaching and organisational activities for which the Faculty is responsible, by exercising all suitable control and surveillance functions;
- b) Participating in sessions of the University Senate and performing all other duties required by the syllabus, statute and regulations;
- c) Undersigning the degree certificates obtained at the Faculty's teaching structures.

Faculty Council: this is a council organ of the University Government whose composition is established by the article 92 of the University Statute. The Faculty Council is currently composed, in its enlarged composition, by the Dean, all the full and associate Professors, a delegation of permanent university researchers and the Faculty's permanent assistants in a number equal to one quarter of professors and in any cases no less than three. The Faculty

Council is also composed of a student body delegation. The Council is summoned and chaired by the Dean. The Council deliberates on the following matters:

- proposals relating to the Faculty's syllabus;
- coverage of permanent positions;
- the Faculty's development plans;
- it takes part to the Statute and regulations' revision.

At the beginning of the Dean's mandate the Faculty Council constitutes a specific Commission which must survey the teaching trend (Teaching Commission). The Faculty Council is currently composed by the Dean, who chairs it, all the full and associates professors, 7 representatives of permanent researchers and 7 student representatives.

The **Teaching Commission of the course of Veterinary Medicine**: is composed by a Chairman, delegated by the Dean, 2 full professors, 2 associated professors, 1 researcher and 2 students.

The Faculty Teaching Commission: is chaired by the Dean or person delegated by him. One half of the Commission is composed by teachers (Degree Courses' Presidents) and the other half by student representatives. It has the task of evaluating the efficiency of the teaching organisation also with regard to the problems of co-ordinating the various courses, the relationship between teachers and students, among teachers, between Faculty and Office Services, and the functioning of tutor services.

Other permanent Commissions are: Apprenticeship and Tutoring Commission; Relations with scientific societies Commission, Relations with national and foreign institutions and, recently set up, the Per-year Committees.

2.4.2 Departments

The Departments promote and co-ordinate, usually within a Faculty but sometimes between more than one Faculty, the research activities. Each Department includes one or more homogeneous disciplinary sectors for research activities and methods and promotes and co-ordinates the structures' activities. Only for research aims inner articulations (i.e., Units) may be constituted but without any external representation (Art. 108 of the Faculty Statute). The Departments coordinate the teaching activities related to their disciplinary sectors in particular those related to research doctorates (PhD) courses and they express mandatory advices about the planning and the coverage of the permanent positions.

Department Organs

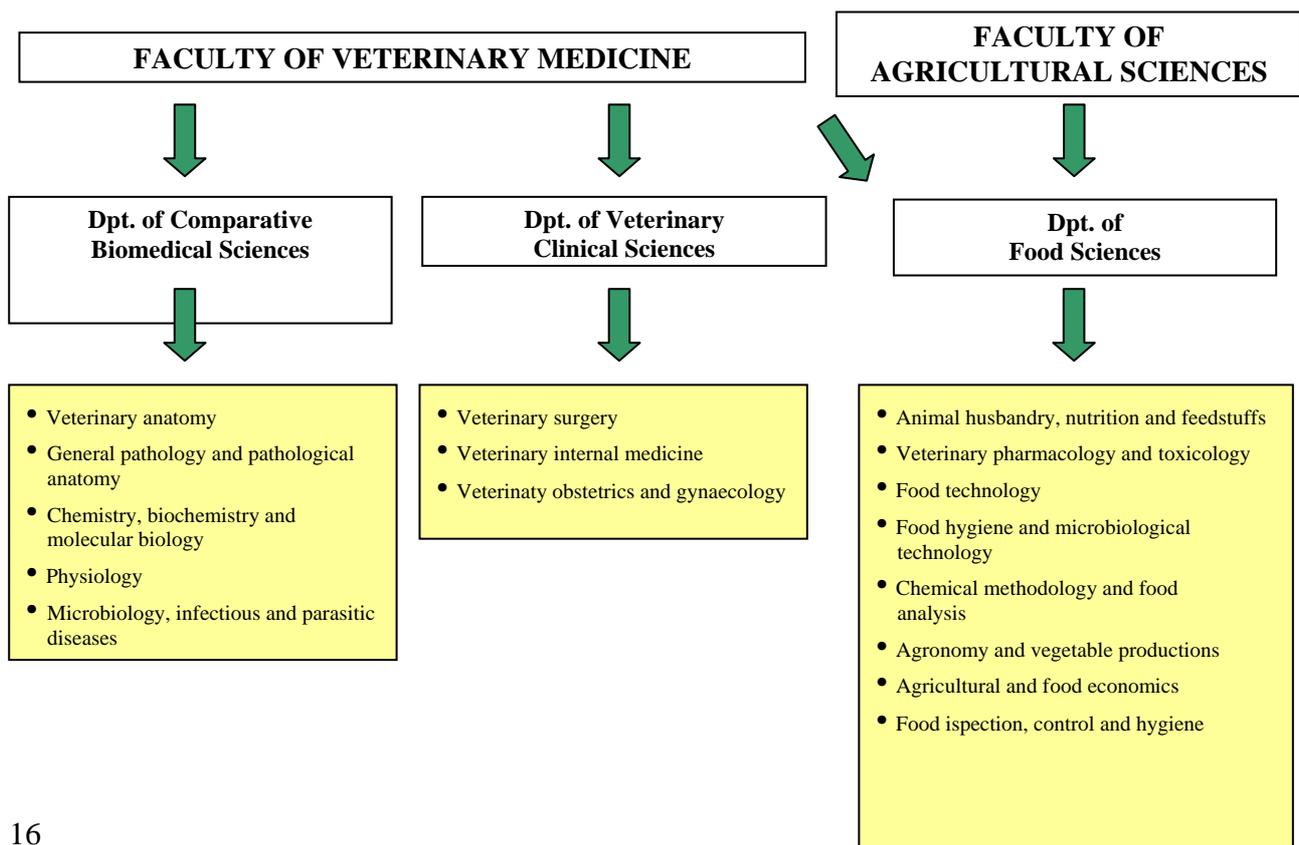
The Department organs include the **Head of Department**, the **Council** and the **Governors**. The Head of Department is normally a full professor elected by the Council.

The Head of Department represents the Department, summons and chairs the Council and the Governors and is responsible of the Department's activities and administration. For this function, the Head of Department is assisted by an administrative secretary, who is responsive with the Head of Department of the administrative and financial actions. The Head of Department oversees the activation of the Department's research programmes and serves a four-year term and may be re-elected only once.

The Department Council is composed by all the Department's teachers and researchers, the Administrative Secretary, who is the Council secretary as well, a technician, administrative and library's representative and a representative of post-graduate students. The Council plans and co-ordinates the Department's activities.

The Department Governors is an executive organ which assists the Head of Department. The Department Governors is composed by a single representative of full professors, associate professors, researchers and by the Administrative Secretary.

The Faculty of Veterinary Medicine is divided into 2 Departments, Department of Veterinary Clinical Sciences and Department of Comparative Biomedical Sciences. There is also the Department of Food Sciences, with teachers of the Faculties of Veterinary Medicine and of Agricultural Studies.



DEPARTMENT OF COMPARATIVE BIOMEDICAL SCIENCES

Head of Department: Prof.ssa Barbara Barboni

Comprises 5 Units:

VETERINARY ANATOMY

Co-ordinator: Prof. Pier Augusto Scapolo

GENERAL PATHOLOGY AND PATHOLOGICAL ANATOMY

Co-ordinator: Prof. Leonardo Della Salda

CHEMISTRY, BIOCHEMISTRY AND MOLECULAR BIOLOGY

Co-ordinator: Prof. Mauro Maccarrone

PHYSIOLOGY

Co-ordinator: Prof.ssa Barbara Barboni

MICROBIOLOGY, INFECTIOUS AND PARASITIC DISEASES

Co-ordinator: Prof. Fulvio Marsilio

DEPARTMENT OF VETERINARY CLINICAL SCIENCES

Head of Department: Prof. Andrea Boari

Comprises 3 Units:

VETERINARY SURGERY

Co-ordinator: Prof. Lucio Petrizzi

VETERINARY INTERNAL MEDICINE

Co-ordinator: Prof. Carlo Guglielmini

VETERINARY OBSTETRICS AND GYNAECOLOGY

Co-ordinator: Prof. Augusto Carluccio

DEPARTMENT OF FOOD SCIENCES (INTERFACULTIES WITH THE FACULTY OF AGRICULTURAL STUDIES)

Head of Department: Prof.ssa Giovanna Suzzi

Comprises 8 Units:

ANIMAL PRODUCTION, NUTRITION AND FEEDSTUFFS

Co-ordinator: Prof. Lamberto Lambertini

VETERINARY PHARMACOLOGY AND TOXICOLOGY

Co-ordinator: Prof. Michele Amorena

FOOD TECHNOLOGY

Co-ordinator: Prof. Dino Mastrocola

FOOD HYGIENE AND MICROBIOLOGICAL TECHNOLOGY

Co-ordinator: Prof.ssa Giovanna Suzzi

CHEMICAL METHODOLOGY AND FOOD ANALYSIS

Co-ordinator: Prof. Dario Compagnone

AGRONOMY AND VEGETABLE PRODUCTIONS

Co-ordinator: Prof. Michele Pisante

AGRICULTURAL AND FOOD ECONOMICS

Co-ordinator: Prof. Andrea Fantini

FOOD INSPECTION, CONTROL AND HYGIENE

Co-ordinator: Prof. Alberto Vergara

2.4.3. HUMAN RESOURCES

Personnel working in the Faculty:

Teaching staff:

13 Full Professors

16 Associate Professors

29 Researchers

Permanent non-teaching staff:

- Dean's Office: 5 units of support staff;
- Tutor service Office: 1 units of support staff;
- Library: 3 units of support staff;
- Department of Comparative Biomedical Sciences: 16 units of support staff;
- Department of Veterinary Clinical Sciences: 8 units of support staff;
- Department of Food Sciences, Veterinary Units: 6 Units of support staff

Temporary Staff

13 Professors with contracts for academic year 2005-2006

40 post-graduate PhD students, 22 temporary researchers fellowship holders, contracts and scholarship workers

Other structures present in the Faculty

2.5 RULES FOR THE NOMINATION OF REPRESENTATIVES

The rules governing representative nomination are established by the University Regulation.

Dean: elected from the full Professors by secret ballot of the Faculty Council. He/she serves for four-year term of office and may serve a maximum of two consecutive terms.

Vice- Dean: nominated by the Dean from amongst the full Professors.

Heads of Department: they are elected by their respective Councils, usually from the full Professors. Heads of Department serve a four-year term and may not serve more than two consecutive terms.

2 - COMMENTS

It is important to highlight the different and complementary role of the Faculty and Departments with regard to permanent teaching staff:

- The Departments forward teaching and research position requests to the Faculty on the basis of a detailed Research Development Plan, so that the Faculty may co-ordinate them and harmonize them with teaching requirements; furthermore, they express, in the sectors of their competence, opinions on the allocations of teaching positions by the Faculties.

The Faculty deliberates and expresses opinions on: the way to cover teaching and research positions, the calling of permanent professors, the holding and teaching assignments of permanent professors, judgements confirming the professors and researchers, teaching and research assignments of researchers and assistants.

3 - SUGGESTIONS

The organization of the Veterinary Medicine Faculty is similar to those of the other Faculties of Teramo University; the University Statute defines its competence as well as those of the Departments. It is believed that this organization, taken as a whole, is able to make possible the achievement of scheduled objectives; moreover, the interaction among the different structures is satisfactory.

CHAPTER 3

FINANCE

1 - FACTUAL INFORMATION

Teramo's Faculty of Veterinary Medicine is part of a state-run University and as such it receives from public authorities (the Ministry of University and Research, hereinafter abbreviated to MiUR) funds for teaching and support staff, for covering operating costs and teaching activities and for general expenses. However, state funds only partially cover the finances required for post-graduated PhD students, temporary research fellowship holders, contract and scholarship workers and funds for research.

The **salaries for teaching and support staff** are paid by MiUR through the University of Teramo.

The **funds for covering operating costs and teaching activities** (Ordinary funds and student contributions) are passed on by the University to the Faculty (Dean's Office and Departments). **General expenses** are covered jointly by the University, Dean's Office and Departments as shown below:

Expenditure Item	University	Dean's Office	Departments
Heating	X		
Lab gas	X		
Water	X		
Electricity	X		
Disposal of toxic, harmful, radio active and high risk animal origin waste		X	X
Disposal of Biological Waste		X	X
Cleaning	X		
Telephone		X	X
Gardening	X		
Machinery	X		X

Research funds derive from:

- Public authorities (Various Ministries as MiUR, Ministry of Health, Ministry of Agricultural and Forest Policies etc.), National Research Council (C.N.R.), European Union and Abruzzi Regional Authority;
- Private enterprise (veterinary sector industry);
- Clinical and diagnostic activities (funds deriving from clinical visits, surgery, hospitalisation and laboratory tests, etc.);
- Analysis services (feed and foodstuff).

3.1 EXPENDITURE

Table 3.1.1. annual Expenditure of the establishment		
Calendar Year 2006		
a. Personnel		Euros
a.1	teaching staff ¹	3,433,078
a.2	support staff ²	682,509
a.3	research staff ³	470,444
	Total for a	4,586,031
b. Operating costs		
b.1	Utilities (electricity, gas, water bills)	138,379
b.2	expenditure relating specifically to teaching ⁴	31,450
b.3	expenditure relating specifically to research ⁵	1,717,512
b.4	general operations (excluding the above) ⁶	256,220
	Total for b	2,143,561
c. Equipment		
c.1	teaching ⁷	205,949
c.2	research ⁸	150,987
c.3	general (or common) equipment ⁹	0
	Total for c	356,936
d. Maintenance of buildings¹⁰		20,416
e. Total expenditure		7,106,943

¹Gross cost of full and associate professors and researchers, contract professors and payment of supply teachers.

²Gross cost of support staff.

³Gross cost of post-graduate PhD students, temporary research fellowship holders, contract workers and scholarship workers.

⁴Sum of ordinary funds, student contributions and expenses for research.

⁵Sum of research funds obtained from public and private bodies.

⁶Sum of expenditure for Departments and Dean office's cars, gardening, cleaning, telephone, chemical and biological waste disposal, library expenditure for journal subscription, purchase for books and databases.

⁷Annual amortisation of instrumentation used for teaching calculated on ten-year basis.

⁸Annual amortisation of instrumentation used for research calculated on ten-year basis.

⁹Annual amortisation of Departments and Dean office's cars.

¹⁰Cost for the annual maintenance of buildings.

With regard to cost/year/student calculations, it should be pointed out that the total number of enrolled students can be broken down into two categories: students on course and student off-

course. The former category refers to undergraduates in one of the five years of the course, whereas the latter are those students who have not succeeded in completing the course in 5 years and, although in most cases they have finishing attending lessons, they still have exams to sit.

The **total number of undergraduates** at 30.06.2006, considering those on and off-course was **718**, the **total number of on course students** at the same date was **487**.

Therefore, calculations can either be made considering all the undergraduates, or alternatively those on course only.

Table 3.1.2 Cost of veterinary training	
Data for all enrolled students	
	Euros
1. Annual direct cost of training a student ¹¹	6,062.65
2. Direct cost of training for a diploma ¹²	51,290.02

Table 3.1.3 Cost of veterinary training	
Data for students on course only	
	Euros
1. Annual direct cost of training a student ¹³	8,938.37
2. Direct cost of training for a diploma ¹⁴	75,618.61

We believe that the cost/year/student (and as a consequence that of the entire training program) is that given in table 3.1.3, referring to students on course only, because, as mentioned in other chapters, students off-course make little use of the teaching activities offered each year, and only sit exams. We therefore believe the information given in table

¹¹

$$\text{Cost} = \frac{a1 + a2 + b2 + c1}{\text{Number of students in undergraduate training}}$$

where a1, a2, b2, and c1 are given in Table 3.1.1; the number of students in undergraduate training is 718.

¹² This cost is obtained by multiplying the direct annual cost of training a student by the average number of years of training for a student. A weighted average (8.46 years) was used as it was not deemed correct to consider 2 to 3 years out of course as equal to 8 to 9 (far fewer students graduate in the latter!). Data refers to students graduating in the period 2001-2006

¹³

$$\text{Cost} = \frac{a1 + a2 + b2 + c1}{\text{Number of students in undergraduate training}}$$

where a1, a2, b2, and c1 are given in Table 3.1.1; the number of students in undergraduate training is 487.

¹⁴ This cost is obtained by multiplying the direct annual cost of training a student by the average number of years of training for a student.

3.1.2 referring to all students to be inaccurate, given that every year after the five envisaged in the training program actually constitutes a far lower cost than that calculated.

3.2. REVENUES

Table 3.2.1. Annual revenues of the establishment	
Calendar year 2006	
	Euros
a. revenue from the State or public authorities ⁵	698,970.40
b. revenue from private bodies	100,567.00
c. revenue for research	432,102.17
d. revenue earned and retained by the establishment ⁶	
d.1. registration fees from students ⁷	99,894.00
d.2. revenue from continuing education ⁸	203,860.00
d.3. revenue from clinical activities	108,258.00
d.4. revenue from diagnostic activities	52,904.24
e. revenue from other commercial activities	91,493.00
Total revenue from all sources	1,788,048.81

The **public authority funding** shown in Table 3.2.2. relates to ordinary funding and the student funding allocated to the Faculty by the University. The table also shows the evolution in these funds over the past 5 years.

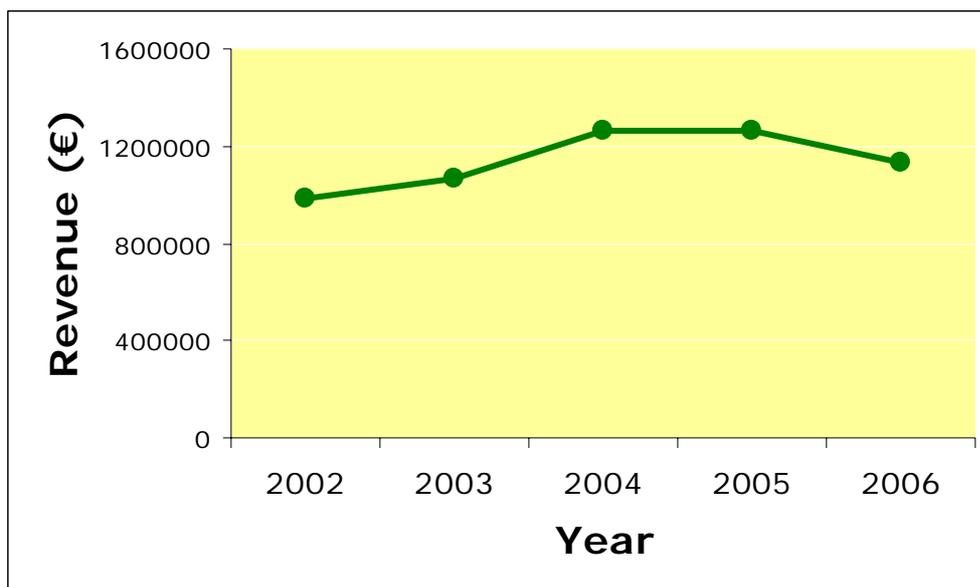
⁵ Sum relating ordinary funding only

⁶ All items, with the exception of student contributors are gross of the gains allocated to teaching and support staff.

⁷ This item only includes the percentage (19%), defined student contributors, of the fees paid by students and allocated by the University to the Faculty.

⁸ This item includes revenues net of the amount withheld by the University or used to pay teaching staff in the Schools of Specialisation in "Equine Medicine and Surgery", "Animal Health, Livestock and Science of Animal Breeding" and "Food Inspection" equal to a total of €122,859.64, and the profits of the Masters related to the reference year (2006) equal to a total of €81,000.00.

Table 3.2.2. Changing in public funding from University to the Faculty



Year	2002	2003	2004	2005	2006
Revenue ⁹	981,729	1,062,673	1,263,668	1,261,235	1,131,072

The funding allocated to the Faculty by the University includes different items:

- **Teaching funds**, given to the Faculty Dean and used to cover teaching expenditure (supply and contract staff) and for the improvement of teaching activities.
- **Operating funds (or ordinary funds)**: allocated directly by the University to the Dean's Office and the Departments. They may be used for the payment of utilities, cleaning, maintenance and other activities connected to structure's functioning as well as for purchasing equipments, books and scientific journals.
- **Research funds**: allocated to the Departments to directly finance research activities or to co-finance Ministerial research funds.
- **Funds for PhD course**: : allocated to the Departments for the payment of PhD bourses and for covering operating costs.

⁹ Sum of ordinary funds allocated to Dean Office, Faculty's Departments and School of specializations.

The revenue in items d2, d3 and d4 of Table 3.2.1 is divided, in the percentage given in Table 3.2.3 (according to which there may be slight differences between the various Departments), between:

- Revenue that remains in the Departments to cover operating costs;
- Payments assigned to teaching and support staff;
- The budget transferred to the University.

Precisely, revenue from clinical work and analysis is shared between the Department that supplied the service, the Department staff who participated in creating the service and University Administration.

Item	Department %	Staff %	University %
Clinical work	32	51	17
Analysis for commercial clients and veterinary practitioners ¹⁰	32	51	17
Research grants	0	0	0
Post-graduate courses fees	85	0	15

The University's policy for the ordinary funding of the Faculties is based on criteria that are identical to all faculties. Therefore, it is difficult to ascertain substantial difference in the funds that the University allocates to the various faculties. This depends also on the fact that certain University funds are attributed to the Departments and, in many circumstances, the teaching staff of the same department belongs to different Faculties and shares the same support staff. As table 3.1.1 shows that approximately 50% of actual costs can be attributed to the teaching staff item, connected to one Faculty only, on request the University provides the cost in teaching staff for each student enrolled in a given Faculty using the formula:

$$\text{Cost per student} = \frac{\text{Gross cost of teaching staff}}{\text{number of students enrolled in the Faculty}}$$

¹⁰ There is no difference between services to veterinarians and those to clients.

The data for financial year 2006 are as follows:

FACULTY	Cost in €
LAW	950,528
POLITICAL SCIENCES	953,211
COMMUNICATION SCIENCES	426,360
VETERINARY MEDICINE	1,131,072
AGRICULTURAL STUDIES	297,021

The Table shows that the Faculty of Veterinary Medicine's cost of teaching staff per student is the highest of the University of Teramo considering that, for example, the number of students of the Law Faculty is approximately fivefold that of the Veterinary Faculty. Nevertheless, a compensation is carried out, also at Ministerial level, considering the higher didactic costs of the scientific faculties.

2 - COMMENTS

Most Faculty funding is provided by the State and is established at a Ministerial level also on the basis of assessment parameters applied to all Italian Universities. It cannot therefore be increased on the basis of external requests, even when objective justifications are provided. The only resources that may be increased are those destined for research, which depend to a great extent on the ability of the individual researchers, research groups and Departments to attract external financing.

Over the last year (2007) there has been a substantial decrease in the entity of ordinary funds and student funds allocated by the University to the Faculty (not shown in the Tables because of ongoing financial year) mainly related to overall financial restriction of all Italian Ministries, including MiUR. The funds given to the Faculty of Veterinary Medicine are the highest of the University of Teramo, but our courses entails a large amount of practical work and, consequently, investment in teaching and non-teaching staff as well as equipments.

This situation, combined with investment needs for the maintenance of teaching and connected infrastructures and to be evaluated according to the vitality of the research structures (Departments), which are an integral part of the Faculty, poses serious financial problems.

As mentioned previously, ordinary funding does not vary substantially from one year to the next (in fact funds usually drop), whereas the more considerable changes in revenue are the

allocation of funds (by the University or private organisations) dedicated to investment in teaching structures or infrastructures necessary to the Faculty activities. The Faculty's current priority is the building of the new Veterinary Faculty (see below).

The criterion for establishing the distribution of funds from clinical and diagnostic activities should be considered as acceptable. The percentage passed on to the University is proportionate to the amount that the structure (Department) decides to attribute to staff funding and, in extreme situations, it could be decided not to pass on any funds to the University. In this case the structure should suggest allocating the entire amount as revenue that remains in the Department and cancels out the compensation to be divided between the staff that provided the service.

3 - SUGGESTIONS

There is a large difference between the University fees paid by students (from a minimum of € 747 to a maximum of € 868) and cost/year/student (see table 3.1.2 and 3.1.3). This difference is compensated by the annual contributions transferred by the MiUR to the University of Teramo. It would be maybe more appropriate to increase the fees to be paid by students from wealthier families, however, this is not possible under Italian legislation.

In recent years Ministry contributions have not increased, thus hindering the possibility of new investments. Moreover, the University has favoured the opening of new Faculties, thus limiting the resources available for existing ones.

Certain funding levels must be maintained in order to guarantee the correct performance of practical work, which entails hefty operating costs (purchase and maintenance of animals, transportation and disposal of carcasses and organs, diagnostic laboratory work). The use, as an alternative, of animals brought by clients or those used for research would reduce the freedom of teaching work on animals.

It would be appropriate in the future for the University to distribute student contributions and ordinary funds in such a way as to take into account the differing needs of the various Faculties in order to satisfy the requirements of teaching that, due to a greater amount of practical work, has higher operating costs.

The University has set aside 12,000,000 euros for the building of the new Veterinary faculty. The public announcement for this construction has already been going on, but legal obstacles have slowed down the beginning of the construction that it is expected to start in the near September. In the meantime, the Faculty uses the existing teaching structures that are equipped with new equipments.

CHAPTER 4

CURRICULUM

1 - FACTUAL INFORMATION

The curriculum of the Veterinary Medicine training and of the entire University training in Italy has been recently revised, starting from the Ministerial Decree 509, dated November 3rd, 1999 and from the consequent Ministerial Decree, dated November 28th, 2000 (see Annex 4.1).

This law is part of the vast reforms of the degree courses of all Italian universities. In short, this nationwide law ordered the replacement of the conventional undergraduate course with that of a three year (first level) and two year specialist degree (second level) course. The exceptions to this subdivision are the health related degree courses, including Veterinary Medicine, where the degree course is not broken down into 2 levels but rather a single degree course that, in the case of Vet Medicine, lasts five years.

Therefore, the curriculum of the degree course is regulated on a national basis by the abovementioned law. It has recently been replaced with the Ministerial Decree 270, dated October 22nd, 2004 and registered at the National Audit Office on May 5th, 2007: it contains a new list of course classes and new contents for each of them. All the Faculties have to comply with these new provisions from the Academic Year 2008/2009 in order to redefine the academic programmes. In short, the new law will amend the previous increase of the national evaluation control concerning the teaching quality of courses supplied by the Universities. Another prospect, for which the Italian Vet Faculties are working for, could be the possibility of increasing study duration from 5 to 6 years.

To date, one important innovative aspect, instituted till Ministerial Decree 509/2000, is the introduction of University Training Credits (UTC), the unit of measurement used to determine the fulfilment of the curriculum and comprising (for the same subject) hours of lectures, practical work and self-study time. One UTC is equal to 25 hours of didactics (including lectures and practise) and self-study. The undergraduate curriculum of Veterinary Medicine is composed of 300 UTC.

The national organization regulations provide that credits are given on the basis of the disciplines taught, divided by basic, characterising, similar and supplementary subjects, chosen by the student, for the final test and the knowledge of a foreign language. Particularly, a number of compulsory credits is defined by the Ministry, for each discipline and reserved for each single University the ability to grant other credits, within the limits of their didactics

autonomy. The compulsory credits provided up to today, for Veterinary training are divided as follows:

- minimum 50 UTC for basic subjects;
- minimum 70 UTC for characterising subjects;
- minimum 30 UTC for integrative subjects;
- 15 UTC for the completion of the degree thesis;
- 15 UTC for the optional/elective subjects;
- 18 UTC for other activities.

The reform of the degree classes, recently approved (June 5th, 2007) has reviewed such credits raising the credits relevant to the training of basic subjects to 58 and raising to 130 the credits of the characterising subjects. The total number of obligatory credits, established by the Ministry, is equal to 188. Particularly, compulsory credits are divided as follows:

Subjects	General Area	Discipline Sector	Minimal Number of Credits per area	Total number of credits established by the Minister
Basic	Medical Applied discipline	Analytical chemistry General and inorganic chemistry Organic chemistry Physics Mathematics	6	58
	Biology and genetics of plants and animals	Ethnology, genetics and genetic improvement Botanic Environmental and applied botanic Zoology	6	
	Structure, function and metabolism of molecules of biological interest	Biochemistry Molecular biology Clinical biochemistry and molecular biology	12	
	Structure and function of animals organism	Anatomy Physiology	30	
Characterising	Animal husbandry and nutrition	Ethnology, genetics and genetic improvement Animal feeding and nutrition Animal husbandry and production	20	130
	Infectious and parasitic diseases	Microbiology and infectious diseases Parasitology and parasitic diseases	20	
	Veterinary pathological anatomy and food inspection	Pathological anatomy Food inspection and food hygiene	30	
	Veterinary clinics	Pharmacology and toxicology Clinical medicine Surgery Obstetrics and obstetrical clinics	55	
	Informatics and statistical methods	Informatics Statistics	5	

In addition, students are required to carry out practical training equivalent to 30 UTC, preferably during the course of the last year, to gain specific, medical veterinary, professional skills.

The curriculum obtained by all students does not provide distinctions or specializations during the medical veterinary training, as the only specification is reserved to credits, chosen by the student (see elective subjects tables – 4.2)

In any case, the amendments made by the individual Faculties must comply with the minimum number of credits assigned to the basic, characterising, integrative and optional subjects. Furthermore, the Permanent Conference of the Deans of the Faculty of Veterinary Medicine in Italy, as advisory body, indicates the guidelines to standardize the curriculum on a national scale and also to support the possible transfer of students from a Faculty to another. So, Italian Veterinary Medicine Faculties have very little reason for intervening to alter the curriculum of Veterinary Medicine degree courses.

With reference to the timetable commitment related to each single credit, the Ministry regulations recently approved, provides that the hourly share to be reserved for individual study cannot be less than 50% of the whole timetable commitment (which has remained unchanged – 25 hours), except for the credits devoted to training activities, having a high practical content. Currently, in the veterinary world, the permanent Conference of the Deans of Veterinary Medicine gives indications pertinent to the distinction, in reference to the UTC, the hours of in-class didactics in comparison with the hours of individual study. Such indications are generally agreed upon, without many local changes, by the didactical regulations of the Faculty. The indication of the Deans Conference divides in a very different ways the didactical hours, depending on if they belong to the basic subjects, where more time is dedicated to individual study, or if they belong to the characterizing topics, where more attention is given to theoretical and practical didactics. The timetable division of the Faculty of Teramo is the following:

General Discipline Sector	Number of hours per UTC
Anatomy	11
Physiology	11
Pathological anatomy	13
Food Hygiene	13
Microbiology and infectious diseases	13
Parasitology and parasitic diseases	13
Pharmacology and toxicology	14
Clinical medicine	14
Surgery	14
Obstetrics and obstetrical clinics	14
Animal production and nutrition	13
Rural economy	7
Molecular Biology	8
Biochemistry	7
Zoology	13
Biophysics	7
Informatics	7
Statistics	7
English as a foreign language	8
Practical and clinical compulsory period	20

The Veterinary Medicine degree course taught at the Faculty of Veterinary Medicine of Teramo for the academic year 2005-2006 is composed as follows (total 300 credits):

- 50 UTC for basic subjects
- 155 UTC for characterising subjects
- 30 UTC for integrative subjects
- 30 UTC for compulsory practical placements
- 20 UTC for optional obligatory subjects
- 15 UTC for the completion of the thesis and English

The Faculty Council and the Faculty Teaching Commission, taking into account the general objectives defined by the national regulations, determine the specific objectives of the training, by defining the yearly objectives and the general objectives of each single course, which can be freely managed and integrated by the teachers to their way of thinking. The Committee of the Veterinary Medicine Degree Course has been recently set up and, in the future, it will be given the task of formulating the didactical curriculum and its contents, as the Faculty has to deal with other degree courses (particularly two triennial degree courses for “Biotechnology” training and “Animal Care and Welfare”).

Annually, the Faculty Council has to approve the didactics planning of the Faculty. Such planning consists in defining the subjects to be taught and the UTC didactical commitment of the different subjects taught in the training of the Veterinary Faculty, except for the compulsory indications provided by the national regulations. The Council, in addition, establishes the suggestions relevant to the importance of the hours of each single subject, taking into account the indications of the Deans Conference and it suggests the division of the hours into theoretical and practical didactics. Each teacher has self-governance in the management of didactical hours and, particularly, in the division of these practical hours into didactical tutoring or exercises. In order to make such decisions, the Faculty Council makes use of different monitoring and intervention systems, both of the University (NUVA) and internally (even if recently set up) such as the data bank of the Dean Office, pertinent to the passing of profit examinations and to the Per-year Committees. These Per-year Committees are systems of coordination among the teachers of the same year, that establish the training objectives of the year, in collaboration with the students of each single year and it is their duty to evaluate the results, by highlighting the problems and making available in real-time the needed data to evaluate the solution of the problems.

As an explanation, it seems interesting to list the actions of modified curriculum, recently passed by the Teaching Commission, based on the data analysis of the flow of the students during their training courses; these data come from the Dean Office data base. During the academic year 2004/2005, the Faculty Council has approved a reduction of the hours indicated by the Deans Conference (a reduction of two hours per UTC), to allow a reduction of the in-class lessons, by increasing the time students should dedicate to their studies. In addition, the necessity of unburdening the first 2 years to benefit the third, fourth and fifth year, has also been recognized; to favour a better time schedule in order to allow the students to have more time to dedicate to individual study, especially during the first year. To optimize the didactics and reduce the time between the end of the lessons and the passing of examinations, an action of strong integration and coordination has been carried out among the teachers of the same year; such action has been essentially based on the treatment of similar topics in a parallel way instead of in a sequential way (model function/dysfunction). At last, the teachers have been requested to be more committed to guide the students, by offering them more opportunities for confrontation and by dedicating more time to the methods of study, stimulating didactics in order to search for, select and use information to solve problems, emphasizing the acquisition of problem-solving ability.

With regards to the importance of the practical part, it must be remembered, that a section of this practice is compulsory as training before the degree, in order to qualify for the state examination for certification into the veterinary profession (see paragraph 4.7 clinical training).

To better understand, the following tables pertinent to the didactics carried out in the academic year 2006/2007 are written in hours, also because of the different value in hours set by the UTC, according to the topics taught.

4.1: CURRICULUM FOLLOWED BY ALL STUDENTS

Table 4.1.1. General table of curriculum hours taken by all students

Subject	Hours of training					Total
	Lectures	Practical work	Supervised work	Clinical work	Other	
First year	406	119	51			576
Second year	420	74	69			563
Third year	473	147	8			628
Fourth year	635	145	16	38		834
Fifth year*	121	175	187	320		803
Total**	2055	660	331	358		3404

*The 5th year of course includes the hours of compulsory practical work professionalizing (see para.4-1 "Factual information and para. 4-7 " Clinical training ")

** Hours of obligatory elective courses are not included

Table 4.1.2.1 Yearly curriculum studies – first year

Subject	Hours of training					Total
	Lectures	Practical work	Supervised work	Clinical work	Other	
Applied biophysics and statistics	59	17	29			105
Propaedeutic biochemistry and molecular biology	49	7				56
Veterinary biochemistry	74	6				80
Veterinary anatomy	87	59	14			160
Zoology, ethnography and ethology	72	4	8			84
General economy and marketing	35					35
English	30	26				56
total	406	119	51			576

Table 4.1.2.2 Yearly curriculum studies – second year

Subject	Hours of training					Total
	Lectures	Practical work	Supervised work	Clinical work	Other	
Veterinary physiology I	40	14	26			80
Veterinary physiology II and endocrinology	89	11	13			113
Veterinary functional anatomy	56	10				66
General Pathology and Veterinary Pathophysiology	70	8				78
Veterinary microbiology	59	6				65
Pharmacology and general veterinary toxicology	50	10	10			70
Histological and general pathological anatomy	56	15	20			91
total	420	74	69			563

Table 4.1.2.3 Yearly curriculum studies – third year

Subject	Hours of training					Total
	Lectures	Practical work	Supervised work	Clinical work	Other	
Veterinary special pathological anatomy and necropsy	53	36	2			91
Pharmacology and special veterinary toxicology	56					56
Parasitology and Parasitic Diseases of Animals	69	48				117
Epidemiology and infectious diseases of animals	77	14				91
Veterinary medical and surgical semeiotic	50	20				70
Veterinary diagnostic imaging and laboratory medicine	66	12	6			84
Veterinary surgical pathology and surgical methods	51	5				56
Animal breeding and economics of livestock production	51	12				63
total	473	147	8			628

Table 4.1.2.4 Yearly curriculum studies – fourth year

Subject	Hours of training					Total
	Lectures	Practical work	Supervised work	Clinical work	Other	
Veterinary surgery	74			10		84
Veterinary anaesthesiology and surgical techniques	74	8		10		92
Obstetrics, pathophysiology of reproduction and artificial insemination	58	33		18		109
Inspection and control of food of animal origin: primary products	64	30	10			104
Infectious diseases, prophylaxis and animal health II	44	8				52
Veterinary internal medicine and veterinary forensic medicine	92	6				98
Animal production	63	28				91
Avian anatomy and husbandry and poultry diseases	56	18				74
Animal feeding and nutrition	110	14	6			130
total	635	145	16	38		834

Table 4.1.2.5 Yearly curriculum studies – fifth year

Subject	Hours of training					Total
	Lectures	Practical work	Supervised work	Clinical work	Other	
Internal Medicine and clinical therapeutic + internal medicine compulsory clinical training	44		23	103		170
Veterinary obstetrical clinics + obstetrical compulsory clinical training	25			117		142
Inspection and control of food of animal origin: processed products + inspection compulsory practical training	52	75	64			191
Surgical compulsory clinical training				100		100
Animal production compulsory practical training		50	50			100
Animal infectious diseases, avian pathology and prophylaxis compulsory practical training		50	50			100
total	121	175	187	320		803

Table 4.1.3. Curriculum hours in EU-listed subjects taken by all students.

Subject	Hours of training				Total
	Lectures	Practical work	Supervised work	Clinical work	
Basic subjects					
Anatomy (incl. histology and embryology)	141	79			220
Biochemistry and molecular biology	107	13			120
Biology and zoology(incl. cell biology)	58				58
Biophysics	25	10			35
Biostatistics	34	7	29		70
Chemistry	16				16
Epidemiology	22	4			26
Genetics	24	4			28
Immunology	24				24
Microbiology	35	6			41
Parasitology	69	48			117
Pathological anatomy (macroscopic & microscopic)	86	36	21		143
Pharmacy	40	5	5		50
Pharmacology	28				28
Physiology	125	20	20		165
Physiopathology	70	8			78
Scientific and technical information and documentation methods					*
Toxicology (incl. environmental pollution)	38	5	5		48
Total	942	245	80		1267

* “Scientific and technical information and documentation methods” is taught by the thesis tutor with the help of the personnel of the Faculty Library specifically during the period assigned for the preparation of the thesis.

Subject	Hours of training				Total
	Lectures	Practical work	Supervised work	Clinical work	
B. Animal Production					
Agronomy	15		6		21
Animal behaviour (incl. behavioural disorders)	18	4			22
Animal husbandry (incl. livestock production systems)	83	76	58		217
Animal nutrition and feeding	95	14			109
Animal protection and welfare	10	3			13
Environmental protection	18	8			26
Preventive monitoring medicine (incl. Health and monitoring programmes) (Infectious diseases)	64	64	50		178
Reproduction (incl. artificial breeding methods)	23	12		18	53
Rural economics	62	8			70
Total	388	189	114	18	709

Subject	Hours of training				Total
	Lectures	Practical work	Supervised work	Clinical work	
C. Clinical subjects					
Anaesthetics	37			5	42
Clinical examination and diagnosis and laboratory diagnostic methods	116	48	29		193
Clinical medicine	72	0	23	103	198
Diagnostic imaging	46	4	6	0	56
Obstetrics	43	5	5	117	170
Reproductive disorders	21	21			42
State veterinary medicine, zoonoses, public health and forensic medicine (Infectious diseases)	55	10			65
Surgery	135	4		115	254
Therapeutics	28				28
Total	553	92	63	340	1048

Subject	Hours of training					Total
	Lectures	Practical work	Supervised work	Clinical work	Other	
D. Food Hygiene						
Certification of food production units	10	5				15
Food certification	6					6
Food hygiene and food quality (incl. legislation)	30	10	15			55
Food inspection, particularly food of animal origin	60	80	50			190
Food science and technology	10	10	9			29
Total	116	105	74			295

Subject	Hours of training					Total
	Lectures	Practical work	Supervised work	Clinical work	Other	
E. Professional knowledge						
Practice management						*
Professional ethics	2					2
Veterinary certification and report writing						**
Veterinary legislation	24	3				27
Total	26	3				29

* “Practice management” is taught currently during clinical subjects and during the compulsory clinical training

** “Veterinary certification and report writing” is taught during all subjects which foresee for official certification and report (necropsy, food inspection, clinics).

Table 4.1.4. Curriculum hours in other subjects taken by every student

Subject	Lectures	Practical work	Hours of training		Other	Total
			Supervised work	Clinical work		
English	30	26				56

4.2: ELECTIVE SUBJECTS

The students of Veterinary Medicine, in conformity with the national regulations, are bound to complete their own training by acquiring 20 elective UTC, whose hours and attendance are compulsory in order to achieve their degree.

Such credits, on the basis of a decision by the Faculty Council are divided into:

- credits integrated into professional training courses (Professionalizing Integrated Courses - PIC) for a total of 6 UTC; these courses, in which attendance is compulsory, include a final examination to verify the learning.
- 14 free credits which are obtained by attending training events (seminars, conventions) organized by the Faculty and that last one or more days; here, attendance is also registered and learning is verified at the end of each day, through multiple-choice tests to be assigned by teacher/s who organize/s the event. The achievement of such credits is written on the university record-book of training events.
- Both the professionalizing integrated courses and the training events have their own internal division in theoretical and practical hours that are freely chosen by the teacher responsible of the event organization.

It must be noted that the regulations that have introduced the supply system of the didactical credits allow a free choice for obtaining compulsory credits, aside from the proposals carried out by the Faculty or rather the achievement of the elective credits should take place freely within the university system.

Professionalizing Integrated Courses (PIC), 6 credits

Subject	Hours of training				Total
	Lectures	Practical work	Supervised work	Clinical work	
Pet animals IPC		30		30	60
Livestock IPC	30	30			60

It must be specified that students may access one PIC only if they have already passed some preparatory exams, and specifically:

for Pet Animals PIC:

- Veterinary surgical clinic (4th year exam)

- Animal feeding and nutrition (4th year exam)
- Internal Medicine and clinical therapeutic (5th year exam)
- Veterinary obstetrical clinics (5th year exam)

for Livestock PIC

- Veterinary surgical pathology and surgical methods (3rd year exam)
- Animal production (4th year exam)
- Internal Medicine and clinical therapeutic (5th year exam)
- Veterinary obstetrical clinics (5th year exam)

Elective seminars, 14 credits

The list of the seminars foreseen in the years 2006 and 2005 is written in the chapter 11.1 relevant to post-degree training.

4.3: OPTIONAL SUBJECTS

Thus, in this case, optional subjects do not exist.

4.4 OBLIGATORY EXTRAMURAL WORK

No compulsory extramural work is envisaged. Many students, especially during the summertime, obtain work experience with professional veterinarians, on farms or with commercial organizations. However these activities are not compulsory and are left completely to the student's discretion. They do not in any way affect the acquisition of credits by the students.

4.5: RATIOS

<p>Theoretical training / Practical and clinical training = $2055 / 1349 = 1 / 0.66$</p>
<p>Clinical training / Theoretical and practical training = $358 / 3046 = 1 / 8.51$</p>

4.6: FURTHER INFORMATION ON THE CURRICULUM

In compliance with the guidelines given, below is a brief description of the various parts of the curriculum grouped together into subject categories (as indicated in table 4.1.3). All parts of the programme have compulsory attendance. The attendance is verified each hour by individual signatures that are registered by the lecturers on appropriate schedules.

In order to give complete information as possible, Annex 4.2 contains the programmes of all the courses.

A. Basic subjects

1267 hours, 942 lectures (75%), 245 practical work (19%), 80 supervised work (6%)

Students may access the first year of the Veterinary Medicine course regardless of the type of secondary education. As a consequence, their basic preparation can vary greatly and their knowledge of basic subjects is extremely heterogeneous. Nevertheless, the attention dedicated to basic subjects is adequate and give students a solid background in chemical, physical and biological sciences, allowing them to proceed with an understanding of the fundamental biological principles and mechanisms underlying animal health and disease, from the molecular and cellular level to the level of organs, the entire animal and animal populations. In the more basic generic subjects (physics, statistics, chemistry) particular emphasis is placed on the parts with direct reference to the biological subjects, without neglecting the more generic aspects.

Most of the didactics activities in the basic subjects are taken the form of lectures although they also involve practical and supervised work. The Anatomy course, as an example, is organized in such a way to start from gross anatomy, giving each student in practical didactics the opportunity to particularly study organ topography using dissection of normal animals (mostly dogs). Furthermore, the anatomy course includes some hours of normal diagnostic imaging and the physiology course some hours of normal semeiotic to give students the opportunity to relate the information derived from a different point of view.

As already outlined (see also Chap. 5), the revision of the curriculum from the academic year 2004/2005 has begun a coordinating action between different courses in the same year, trying to better synchronise the knowledge acquired about function and dysfunction of systems, organs and the whole animal. This work, monitored by the Faculty Council and the Commissions for each year, is not to date complete but seems to give more facility to students

in understanding normal and abnormal processes, reducing also repetition and overlapping of subjects.

B. Animal production

709 hours, 388 lectures (55%), 189 practical work (27%), 114 supervised work (16%), 18 clinical work (2%)

The Veterinary Medicine programme introduces animal production sector subjects from the 1st year of the curriculum. The courses provide students with information relating to both livestock (cattle, pigs, small ruminants, poultry and rabbits) and other (dogs and horses) animals. Teaching is organised in such a way that, during the 1st and 3rd years, students receive basic education on the section with didactics on the morphological, functional and behavioural characteristics of the most common species and breeds and criteria for the improvement of animal production, emphasizing also endangered livestock breeds and their importance to maintain biodiversity. The first semester of the fourth year of the course is dedicated to training students on the notions of animal nutrition, on the characteristics of ingredients used for feedstuffs formulation and fodder production techniques. The techniques to adopt for correct animal rationing are taught in the second semester of fourth year as synchronised with the knowledge of animal husbandry, including avian production, emphasizing farm hygiene and the reflects of animal production on the environment and on animal products. Students are also provided with the notions of economics with particular reference to the Common Agricultural Policy. The fifth year is dedicated to the practical transposition of the education received in the previous years (compulsory practical training) and to the further study of certain subjects believed to be particularly pertinent or interesting.

C. Clinical subjects

1048 hours, 553 lectures (53%), 92 practical work (9%), 63 supervised work(6%), 340 clinical work (32%)

The Veterinary Medicine undergraduate course syllabus envisages that students encounter some clinical subjects already during the first year of the curriculum (some hours of normal semeiotic given with normal physiology). From third year onwards, these subjects are given increasing importance and space through to the end of the 5th year and the achievement of the degree. The teaching of clinical subjects is organised according to a scheme traditionally common to all Italian Faculties. Specifically the Department of Veterinary Clinical Sciences

that has the lecture duty clinical topics, is divided in to three Units: Internal Medicine, Surgery, Obstetrics.

In our Faculty, as in other Italian Faculties, clinical notions are not taught "per species" (horse, cattle, dogs, cats), but rather the division and progression of these studies take into account the three sectors of interest abovementioned. There are therefore disciplines and courses dedicated to the internal medicine of small and large domestic animals and the same applies for surgical and obstetrical subjects. The teaching is organised so as to provide students with information on the basic methods of clinical evaluation of animals in the third year of the curriculum through to the 5th year, which is dedicated to the practical management of patients, learnt through clinical training. In particular, the 3rd year envisages the courses of medical and surgical semeiotics that have the aim of teaching how a consultation should be conducted and the correct way to identify and assess clinical signs. During the same year students are provided with information concerning radiology, ultrasound and endoscopies in the diagnostic imaging course. The illnesses concerning obstetrics, surgery and internal medicine are then taught in the third and fourth year. During the same year, students are taught anaesthesiology, operating techniques and artificial insemination procedures, receiving some hours of physiology of reproductive apparatus and anatomy-oriented operating. The 4th year and mainly in the 5th year of the curriculum is dedicated to the transfer to professional practice of the matters learnt previously with courses of Veterinary Medical Clinic and Therapy, Veterinary Obstetrics and Veterinary Surgery. The contents of such courses are further reconsidered with a practical-professional approach during the practical training periods in the compulsory clinical training of the 5th year using both small and large animals hospitalised or during clinical consultations on external farms for large animals.

D. Food hygiene

295 hours, 116 lectures (39%), 105 practical work (36 %), 74 supervised work (25%),

Subjects concerning the inspection of foodstuffs are introduced in the 4th year during which the students become familiar with the characterising aspects of quality, production processes and the processing of fresh foodstuffs of animal origin. In this way, the course intends to provide useful elements for the identification of appropriate analytical methodologies and a critical evaluation of the results. The main goal is to give students the ability to evaluate in compliance with hygiene regulations the conditions in which foodstuffs are produced, identifying possible sources of contamination. Subjects relating to the traceability of foodstuffs are also dealt with. This discipline is taken up again in the fifth year, at the end of

which students must acquire the ability to record and critically evaluate the state of wholesomeness quality and any alterations of fresh and transformed foodstuffs of animal origin. Students must know how to use national and European standards to express judgements on foodstuffs during production, transformation, sale and administration to the end consumer and they must also acquire the necessary expertise in monitoring the foodstuff production system. The contents of such courses are further reconsidered with a practical-professional approach during the practical training periods in the compulsory practical training.

E. Professional knowledge

The space dedicated to professional knowledge as intended in table 4.1.3 is not extensive and a considerable part of practice management is introduced into clinical courses. Different courses focus mainly on the legal aspects of veterinary interest with specific reference to Italian and European legislation covering professional ethics, veterinary legislation on animal welfare, transport, slaughter, etc. It is also appropriate to mention that this type of information is given in a diffused way during all professionalizing disciplines and above all during practical training. Furthermore, report writing is taught during all subjects which foresee for official certification and report (necropsy, food inspection, clinics).

4.7: SPECIFIC INFORMATION ON THE PRATICAL CLINICAL TRAINING

As previously stated, under current legislation in order to complete the Veterinary Medicine curriculum each student must obtain 30 UTC of exclusively practical experience. Each UTC is of 20 hours in duration for a total 600 hours period. That means 100 hours in the 6 following subjects (established by the Veterinary National Federation):

- Veterinary surgery
- Veterinary internal medicine
- Veterinary clinical obstetrics
- Animal infectious diseases, avian pathology and prophylaxis
- Food Inspection and Hygiene
- Animal production

So practical clinical training is compulsory for all students to access not only the diploma but also the Veterinary State Exam for professional certification. Training is organised to be performed in the second semester of the last year, period throughout which the admitted students no longer have other courses. To be admitted to the practical clinical training students must have passed, before 20th October, the exam of “Veterinary internal medicine and veterinary forensic medicine”, an examination of the 4th year.

CLINICAL PRACTICAL TRAINING

The practical training of the clinical sector (surgery, internal medicine and obstetrics) is done during different courses from the third year (semeiotics) to the fifth (medical, surgical and obstetrical clinics). Furthermore, as abovementioned, a 100 hours period of clinical practical training is compulsory and is performed during the last (fifth) year of the Veterinary Medicine degree course. The whole clinical training activity is performed in the three Units (Surgery, Internal Medicine and Obstetrics) of the Department of Veterinary Clinical Sciences.

Specifically, the activities of the compulsory period include attendance by all students of the structures to the Department of Veterinary Clinical Sciences for a period of three weeks for each clinic (medical, surgical and obstetrical) from Monday to Friday, 8 hours a day. Following the necessities, students must participate to clinical activities also during the week-end or by night (as example to follow parturition, etc.).

All activities during clinical training are done under the direct responsibility of the teachers. Activities followed by each student are certified on a personal diary by the person responsible

who has also to attest a 90% frequency of the training period (practically only one absenteeism is allowed). Only adequately justified absence can be recovered.

Students who are admitted are divided into general groups of no more than 18 people (generally 3 groups of 18 people) who separately attend each single clinical area (i.e. a group attends medical area, another surgery etc.). Each clinical training area has a reference person who provides for the adequate organisation of students from each group to permit correct turnation over the different activities. During every day clinical-practical training students are usually divided into 2 groups of approximately eight/nine people.

In particular the organisation foresees that in the morning (8.00 - 8.30) students begin their activity monitoring hospitalised animals; from 8.30 to 9.00 students present and/or discuss clinical cases with the reference person; from 9.00 to 13.00 and in the afternoon, from 14.00 to 17.30, students follow the appointments of new cases arriving on premises, specialist activities and treatments of hospitalised animals. Particularly, students follow the specialist activities in the different clinical Units (attended separately by each group): in the Surgery Unit, orthopaedics, neurosurgery, abdominal, thoracic and limb surgery and diagnostic imaging; in the Internal Medicine Unit, cardiology, neurology, dermatology, pneumology, nephrology, endocrinology, oncology, laboratory diagnostics, diagnostic imaging); in the Obstetrics Unit gynaecological examinations, uro-genital system surgery, artificial insemination, delivery and caring for the young, neonatology.

At the end of the afternoon (17.30-18.00) students participate in the discussion of clinical cases of the day with the reference person and from 18.00 proceed with the therapy. From 20.00, night-time assistance is guaranteed for hospitalised animals on request.

During their activities students are encouraged to record the medical history of the clinical cases examined, in order to assist the person responsible in examining the animal; to participate in clinical evaluation of the animal, in formulating a differential clinical diagnosis, in formulating a diagnostic protocol and treatment protocol; to co-operate tangibly in the performance of collateral and/or image-based diagnostics (ultrasound, radiology, endoscopy). Each student is also involved in daily surgical activities with patient preparation tasks, the asepsis procedures of the operating field, assistance to the surgeon.

Particular importance is reserved for the treatment of hospitalised animals:

it is every student's task, duly supervised by a tutor, to monitor the conditions of hospitalised animals, administer all prescribed treatment, monitor the operation of infusion pumps in animals subject to fluid therapy, perform basic medication such as replacing dressings, venous catheters, performing of bladder catheterisations etc.

4.8: SPECIFIC INFORMATION ON THE PRACTICAL TRAINING OF FOOD HYGIENE

Training in Food Inspection and Hygiene prescribes 100 hours (5 university training credits) of practical activity, held in 3 weeks. The students are divided in groups (generally 3 groups of 15-18 persons). Each group, in the first 2 weeks is involved in visiting food production and processing plants, and in the 3rd week attends the Faculty's laboratories, according to the following program:

1st week

Day 1: slaughterhouse (cattle, goats and sheep);

Day 2: slaughterhouse (swine, poultry);

Students are involved in the following activities: animal identification, inspection and assessment of animal welfare and of slaughtered animals, ante - and post-mortem inspection, examination for trichinosis, identification of animal species by examination of typical parts of the animal, identifying and commenting on parts of slaughtered animals in which changes have occurred, hygiene control, including the audit of the good hygiene practices and the HACCP-based procedures, recording the results of ante-mortem inspection, sampling, traceability of meat, documentation.

Day 3: cutting plant for red meats;

Day 4: plant for the production of dried sausages;

Day 5: plant for the production of foods processed by heat and ready to eat;

2nd week

Day 1: plant for the production of smoked salmon packaged under vacuum; plant for the production of marinated seafoods;

Day 2: plant for the production of salted meats (hams);

Day 3: plant for hams' boning;

Day 4: plant for the production of dairy products ("pecorino" seasoned cheese, "ricotta" cheese);

Day 5: plant for the production of unprocessed meats (hamburgers, meat loafs, splits);

Students are involved in the following activities: audits of good hygiene practices and hazard analysis and critical control point (HACCP)-based procedures. Regarding to the audits of

good hygiene practices, in particular they verify that food business operators apply procedures continuously and properly concerning checks on food-chain information, design and maintenance of premises and equipment, pre-operational, operational and post-operational hygiene, personal hygiene, training in hygiene and in work procedures, pest control, water quality, temperature control and controls on food entering and leaving the establishment and any accompanying documentation. Regarding to the audits of HACCP-based procedures, they verify that food business operators apply such procedures continuously and properly, and that products of animal origin comply with microbiological criteria laid down under Community legislation and with Community legislation on residues, contaminants and prohibited substances and do not contain physical hazards, such as foreign bodies.

During the visits, students are always accompanied by the researchers of the Food Inspection team and by a freelancer vet specialist in the field of Food Control. During every visit they meet the quality experts of the different establishments and the Competent Authority for official controls. Great importance is given to the discussion in order to relate the compliance of all the stages of the production process with the relevant requirements of the Regulations.

3rd week

Days 1-5: students are involved in the following activities: transport, storage and analysis of food samples of different origin; evaluation of the most important sensory, chemical and physical parameters of food, such as pH and a_w . Students acquire the ability of performing microbiological analysis learning: to work aseptically, to perform serial dilutions, to use different media (enrichment media, selective media, ...) for the evaluation and numeration of the main spoilage and pathogenic bacteria, to plate according to the different techniques, to pick up the single colonies in order to perform their identification, to execute the screening trials (catalase, oxidase, emolitic activity, ...), and the biochemical tests both by manual and automated methods.

2 – COMMENTS

The veterinary curriculum of the Italian faculties is largely regulated on a national basis. A number of compulsory credits is defined by the Ministry, and the curriculum obtained by all students does not provide distinctions or specializations during the undergraduate training, as the only specification is reserved to credits, chosen by the student. So, Italian Veterinary Medicine Faculties have very little reason for intervening to alter the curriculum of Veterinary Medicine degree courses. The curriculum adopted, in our opinion, should allow undergraduates to acquire satisfactory preparation in order to access the national work market in a suitable way. Specific conditions prevailing in our region are however pondered in the different courses particularly emphasizing training concerning pet animals, coming the students principally from the metropolitan area of Rome. Furthermore, food inspection, food quality and certification have a great relevance that reflect a tradition that has always been particularly important in the Italian Vet training.

Concerning the way the curriculum is structured and reviewed, even if each teacher has self-governance in the management of didactical hours, different monitoring and intervention systems, both of the University (NUVA) and internally (even if recently set up) such as the data bank of the Dean Office have been set up. Furthermore the Faculty has established Per-year Committees which duty is to evaluate the results, by highlighting the problems and making available in real-time the needed data to evaluate the solution of the problems. By the mean of these data, the Faculty has recently carried out an action of strong integration and coordination among the teachers of the same year, particularly for the 2 first years; such action has been essentially based on the treatment of similar topics in a parallel way instead of in a sequential way, reducing overlapping. At last, the teachers have been requested to be more committed to guide the students, by offering them more opportunities for confrontation and by dedicating more time to the methods of study, stimulating didactics in order to search for, select and use information to solve problems. This work, recently set up, need some time more to appreciate effective results and will bring information more to set developments in the curriculum. From the Academic Year 2008/2009, the Faculty will have to comply with new law provisions in order to redefine the academic programmes, having so an opportunity to practically traduce the information coming from this self-evaluation system.

The major improvement in order to provide adequate and professional preparation of the students will be the renewal of the structures connected to the nearly building of the new teaching hospital, as the first part of the complex which will include the Veterinary and

Agricultural Faculties. These important change will undoubtedly allow to improve substantially the practical part of teaching, surely influencing in a positive way the ratios in 4.5 and allowing further improvement with regard to organisation and logistics. The Faculty has recently made every possible effort, despite difficulties related to logistic, to adapt and upgrade the curriculum and will continue to make it in order to meet the needs of constant improvements in teaching.

3 – SUGGESTIONS

The ratios between theoretical and practical teaching as given in 4.5 must be further improved, even though Italian legislation on higher education and scientific curricula is rigid and, traditionally, Italian teachers have a cultural “predisposition” for theoretical training.

As already stated, the major improvement will be related to the building of the new teaching hospital (see chapter 6), that will represent the fundamental and undeniable change, also to draw more animals to consultations in the Faculty.

Another important change will be related to a recent evolution in ministry politic that foresee a reduction in the number of students enrolling for the first year of the vet courses on a national basis. This operation, that would be favourable to enhance the teachers/student ratio and to improve practical training (constitution of small groups of students involved in clinical training thus allowing them easier access to clinical activities), goes however against the University's general indications.

Another prospect, for which the Permanent Conference of the Deans of the Faculty of Veterinary Medicine in Italy, as advisory body, are working for, could be the possibility of increasing study duration from 5 to 6 years, allowing more time to increase practical training, diluting the examinations and reducing the off-course students.

Another target that the Faculty could pursue is an increase in the lecturers involved in teaching activities, particularly in professionalizing subjects.

At the same time, the Faculty should continue to operate to favour the harmonisation of the study plans for the individual subjects, in order to eliminate any residual topic overlaps and could take action to remodel the individual courses in the Veterinary Medicine curriculum in order to guarantee complete fulfilment of the FVE-EAEVE requisites with regard to the practical and theoretical teaching requisites.

CHAPTER 5

TEACHING, QUALITY AND EVALUATION

1 – FACTUAL INFORMATION

5.1 THE TEACHING PROGRAMME

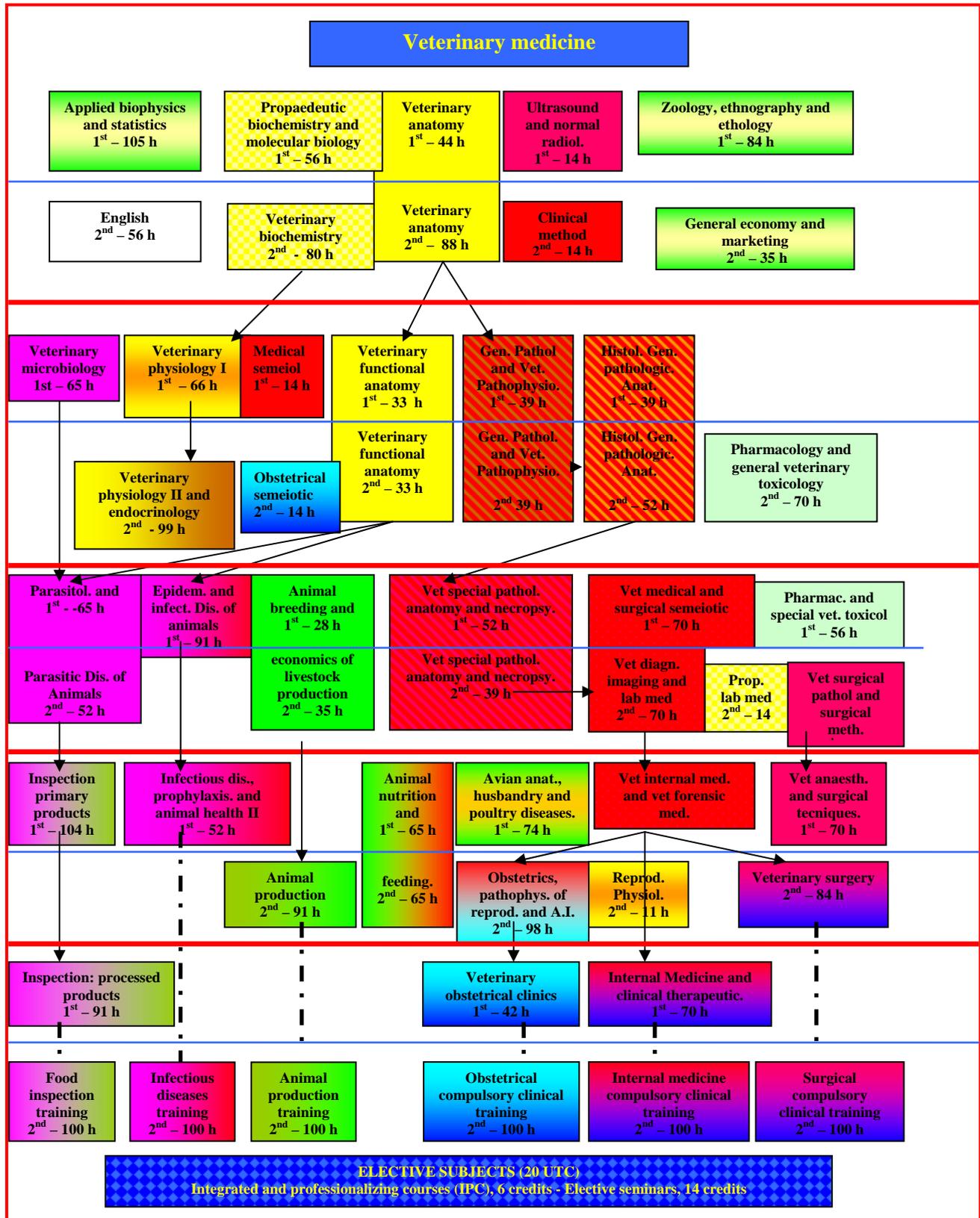
The teaching activities within the Veterinary Medicine Degree Course are co-ordinated by the Committee of the Veterinary Medicine Degree Course (recently set up), the Teaching Commission and the Faculty Council. Special Committees for each of the five years (Per-year Committees) have been recently instituted as the boards responsible for the coordination of the teaching programmes for each degree course as well as for each year.

Most of the teaching programme is set out in different teaching modules run by different professors: they are an integral part of the so-called integrated courses, whose unique goal and real coordination lie not only in the content but also in the length of time carried out by each course.

All the professors whose courses are to be given in that specific year and students' representatives (min. 2-max 3) take part in the above mentioned Per-year Committees, which are co-ordinated by one of the professors. Such Per-year Committees aim at favouring a substantial integration among the professors of the different teaching modules and integrated courses over each year through the following actions: verifying the carrying out of the programmes together with the students; avoiding repetition; allowing a coordination in the timing of carrying out courses. In particular, establishing such Committees has resulted in a new approach in the treatment of various subjects – each being simultaneous and co-ordinated rather than sequential and straightforward. The Per-year Committees, whose work is still in progress, usually meet twice a semester (at the beginning and at the end) in order to arrange and check a proper coordination of the courses, always having regard to the students' opinion. The Faculty Council is the official body in charge of deciding teaching choices of the degree course: it acts on the basis of information sent by the Per-year Committees and, in particular, by the Committee of the Veterinary Medicine Degree Course and the Teaching Commission, whose specific task is to arrange the teaching activity in modules in order to make the courses' organization and the attainment of the teaching goals easier. On the basis of the Teaching Commission's opinion, the Faculty Council has recently taken measures to improve teaching itself with regards as both the number of courses and their organization, in order to

allow an optimization of the course schedule and to leave room for self-study through a cut in the weekly number of course days.

The result of such work is shown in the following flow chart, which is illustrated to first-year students:



The teaching approach – as has been settled by the Per-year Committees and the Faculty Council – aims at providing the students with the basis of Veterinary Medicine studies as well as methodological guidelines useful to face and solve problems. Therefore, during each course, subjects are dealt with so that students' direct involvement is favoured.

The first step of the work carried out by the Faculty Council during the last years has been a better interaction and integration among the professors of the first three years, in order to make information on basic subjects more directly usable by avoiding the overlapping of courses and establishing a link between study and future professional aspects. Such peculiarities are well featured, for instance, by the first-year course of Veterinary Anatomy, where many hours are given to Ultrasound Scanning, Radiology and Veterinary Clinical Methodologies; or by the second-year course of Veterinary Physiology and Endocrinology, where some hours of Semiotics of Veterinary Andrology and Veterinary Obstetrics and Gynaecology are held.

Computer-assisted lessons are at the basis of theoretical teaching: specific software such as PowerPoint is mostly used for presentations at the beginning or at the end of each lesson; then they are placed at the students' disposal in the Faculty Library.

Moreover, notes and instructions are given to the students in order to favour the completion and the in-depth study of textbooks. Further material for closer analyses and research (e.g., film clips, etc.) can be found in the Faculty Library.

Study and multimedia facilities are also open 7 hours daily (from 10.00 to 17.00), where the chance is offered to find and consult diversified sources of information as well as to download material from the Internet.

Many students, during their last years of course, take direct part in the activities of the various branches within the Departments, thus facing by practice the aspects of working activity: more in depth, professional experiences in Veterinary Clinical Medicine usually take place both in animal-health facilities where small animals are admitted and at the facility located in Chiareto where all the clinical activities concerning big animals can be observed.

The structures already present in the Faculty (mainly in Cartecchio and Chiareto sites) are not complete to support undergraduate teaching principally concerning industrial animal husbandry systems and food hygiene and the processing industry. Thus, the Faculty has established many arrangements, following a general standard model (annex 5.1) with farms,

state veterinary services, slaughterhouses, processing plants etc. The outside bodies which actually cooperate with the Faculty for these purposes are the following:

Purpose of the arrangement	Outside bodies which actually cooperate with the Faculty	Dean/Rector	Signed by	duration	renewal
Research and teaching activities	Università di Chieti/ ENI s.p.a.	Rector	rettore chieti/resp.eni	3 years	implicit
Teaching support - State veterinary services	Università di Teramo - Regione Abruzzo	Rector	Russi/Del Colle	3 years	explicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Fondazione Cetacea Riccione	Dean	Scapolo/Stanzani	unlimited	
Teaching support - State veterinary services - Public kennel	Università di Teramo- Azienda USL Te	Rector	Russi/Di Francesco	1 year	explicit
Teaching activities	Facoltà Italiane Med Vet / Ispettorato Logistico Esercito	Conferenza presidi med vet	Girardi e tutti i presidi/ Triani	1 year	explicit
Scientific cooperation	Università di Teramo - Liceo Scientifico Einstein	Rector	Russi/Matarazzo	1 year	implicit
Teaching support - State veterinary services	Università di Teramo - Istituto Zooprofilattico Te	Rector	Mattioli/Caporale	5 years	explicit
Scientific cooperation	Università di Teramo - Corpo Forestale dello Stato Gestione ex. A.S.F.D.	Dean	Formigoni/Savini	1 year	implicit
Scientific cooperation	Università di Teramo - Università di Bologna (CIL Biotecnologie)	Dean	Formigoni/Masotti	1 year	implicit
Scientific cooperation	Università di Teramo - Università di Mansoura	Rector	Maccarrone/Ryan	2 years	explicit
Research and teaching activities	Università di Teramo - Azienda USL Roma D	Rector	Mattioli/Valeri	3 years	explicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Sagem s.r.l.	Dean	Formigoni/De Lauretis	1 year	implicit
Teaching activities	Università di Teramo - Azienda USL Cesena	Rector	Russi/Basenghi	3 a.a.	explicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Italsea s.r.l.	Dean	Formigoni/Manes	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - IVF and Genetics s.r.l.	Dean	Formigoni/Dale	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - "La valle di Taloolabelle"	Dean	Formigoni/Borrelli	1 year	implicit
Teaching support - State veterinary services	Univ. Te Facoltà Med. Vet. - Corpo Forestale dello Stato Gestione ex. A.S.F.D.	Rector	Mattioli/Savini	3 years	explicit
Teaching support - State veterinary services	Università di Teramo - Istituto Sperimentale Zootecnia ROMA	Rector	Mattioli/Manfroni	5 years	explicit
Teaching activities	Univ. Te Facoltà Med. Vet - Bolton S.p.A.	Dean	Formigoni/Meroni	1 year	implicit
Scientific cooperation	Univ. Te Facoltà Med. Vet. - COISPA	Dean	Formigoni/Lembo	1 year	implicit

Teaching support - State veterinary services	Univ. Te Facoltà Med. Vet. - Azienda USL ROMA G	Dean	Formigoni/Palumbo	1 year	implicit
Scientific cooperation	Univ. Te Facoltà Med. Vet. - Regione Toscana - Direzione Generale del Diritto alla Salute e delle Politiche di Solidarietà – Scuola Nazionale Cani Guida per Ciechi di Scandicci	Rector	Mattioli/Bonanni	3 years	explicit
Teaching support - State veterinary services	Univ. Te Facoltà Med. Vet. - Azienda USL L'Aquila	Dean	Formigoni/Mazzocco	1 year	explicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Motopesca "Anna Roberta"	Dean	Formigoni/Verzulli	1 year	implicit
Teaching support - State veterinary services	Univ. Te Facoltà Med. Vet. - IZS della Sicilia	Dean	Formigoni/Riela	1 year	implicit
Research and teaching activities	Univ. Te Facoltà Med. Vet. - Osservatorio Nazionale Pesca	Rector	Mattioli/ Ervio Dobosz	3 years	implicit
Teaching activities	Univ. Te Facoltà Med. Vet.- Università Chieti Fac. Medicina e Chirurgia	Dean	Marsilio/Di Ilio	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - La diomedea navigazione	Dean	Marsilio/ Macrini	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet.- Tecnobios Procreazione S.r.l.	Dean	Marsilio/Borini	1 year	implicit
Teaching support - State veterinary services	Università di Teramo - Azienda USL Teramo	Rector	Mattioli/Molinari	3 years	explicit
Teaching activities	Univ. Te Facoltà Med. Vet.- Ente Coop. Pacha Mama a r.l.	Dean	Marsilio/Pompilii	1 year	implicit
Teaching support - State veterinary services	Univ. Te Facoltà Med. Vet.- IZS Regioni Lazio e Toscana	Dean	Marsilio/Brizioli	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet.- Azienda Agricola Fratò	Dean	Marsilio/Mario Fratò	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet.- Azienda Agricola Lanari Dante	Dean	Marsilio/Dante Lanari	1 year	implicit
Teaching support - State veterinary services	Facoltà Italiane Med Vet / Ispettorato Logistico Esercito	Conferenza presidi med vet	Castagnaro e tutti i presidi/ Triani	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet.- Zoomarine di Roma	Dean	Marsilio/Lavia	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet.- Fattoria MAGA' s.n.c.	Dean	Marsilio/Patanè	1 year	implicit
Scientific cooperation	Univ. Te Facoltà Med. Vet. - Regione Abruzzo	Rector	Mattioli/Mazzocca	3 years	explicit
Teaching support - State veterinary services	Univ. Te Facoltà Med. Vet.- Azienda USL Rieti	Dean	Marsilio/Bellini	1 year	implicit
Teaching support - State veterinary services	Univ. Te Facoltà Med. Vet. - Azienda USL Teramo	Dean	Marsilio/Molinari	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Clinica veterinaria Villa	Dean	Marsilio/Palladini	1 year	implicit

	Andreina				
Teaching support - State veterinary services	Univ. Te Facoltà Med. Vet.- Azienda USL Roma F	Dean	Marsilio/Biagini	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - IZS Umbria e Marche	Dean	Marsilio/Petracca	3 years	explicit
Teaching activities	Univ. Te Facoltà Med. Vet. - ASUR Marche Zona territoriale n. 7 Ancona	Dean	Marsilio/Novelli	1 year	implicit
Scientific cooperation	Univ. Te Facoltà Med. Vet. - Slow Food	Dean	Marsilio/Petrini		
Teaching activities	Univ. Te Facoltà Med. Vet. - Università di Bari - Dip. Di Ginecologia Ostetricia e Neonatologia - Centro di Fisiopatologia della Riproduzione Umana e Congelamento gameti	Dean	Marsilio/Selvaggi	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Gesco Consorzio Cooperativo Soc. Coop. Agricola	Dean	Marsilio/Boschetti	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Azienda Agricola Vallorani	Dean	Marsilio/Vallorani	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Azienda Roberto Sterlecchini	Dean	Marsilio/Sterlecchini	1 year	implicit
Teaching support - State veterinary services	Univ. Te Facoltà Med. Vet.- Azienda USL Frosinone	Dean	Marsilio/Zotti	1 year	implicit
Teaching activities	Università di Teramo- Ente Parco Nazionale d'Abruzzo, Lazio e Molise	Dean	Marsilio/Rossi	1 year	implicit
Scientific cooperation	Univ. Te Facoltà Med. Vet. - Comune di Pescara	Dean		1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Azienda Agricola F.lli Panichi	Dean	Marsilio/Panichi	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Azienda Zootecnica Branella	Dean	Marsilio/Branella	1 year	implicit
Research and teaching activities	Univ. Te- Federazione Nazionale delle Imprese di Pesca (FEDERPESCA)	Rector	Mattioli/Giannini	3 years	implicit
Scientific cooperation	Univ. Te Facoltà Med. Vet. - CRAB	Dean	Marsilio/	1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Regione Puglia - Assessorato alle Risorse Agroalimentari - Settore Agricoltura - Ufficio Incremento Ippico Foggia	Dean	Marsilio/Ursitti	1 year	Implicit
Scientific cooperation	Univ. TE - Provincia TE	Rector	Mattioli/D'Agostino		
Teaching support - State veterinary services	Univ. Te Facoltà Med. Vet.- ASL Vasto - Lanciano	Dean		1 year	implicit
Teaching activities	Univ. Te Facoltà Med. Vet. - Dipartim. Scienze Cliniche Vet. Università NAPOLI	Dean	Marsilio/Lorizio	1 year	implicit

These structures are used as a teaching support during the practical hours of different courses; the students transferred to these outside bodies are continuously supervised by a lecturer. Visits to external structures are principally organised with small groups of students to allow for better direct learning. Furthermore different outside bodies are also arranged with the Departments for research purposes and frequented by selected students, under researchers control, working toward their thesis.

5.2 THE TEACHING ENVIRONMENT

Most of the classrooms used for conventional lessons are equipped with multi-media support systems allowing a sufficient teaching quality. Other facilities include 2 computer rooms and study rooms for students.

An important service recently instituted to improve teaching quality is the Didactics Manager and Tutorial Office. The main objective of this office and of the Didactics Manager in particular is to give support and supervision for all teaching activities, to better coordinate lecturer-lecturer and lecturer-student. This office give teachers assistance in preparing teaching material and represent a collection and orientation point to optimise the transfer of teaching support to students.

5.3: THE EXAMINATION SYSTEM

Evaluation techniques vary and may include oral, written, practical and clinical examinations. Learning assessment techniques are chosen by the lecturer responsible for the course. Course assignment tests "*in itinere*" are often used to assess learning abilities; these tests do not affect the access to end of course examinations. Lecturers make public their chosen method of learning assessment that is published on the Faculty Website within the teaching programme of the course.

Examinations are held at the end of each term, after lessons are terminated. Thus, three periods for examinations can be recognised, the January/February period (at the end of the first semester), the April period (sit astride Easter holidays), the summer period (at the end of the second semester, from June to September).

To facilitate the students in sustaining different exams in short sessions, all lecturers have to be "available" for several days within the session to reduce overlapping of examinations (so called, open exam).

Students who are registered to the "out of course" year (i.e. up to the 5th year) are allowed to sustain all examinations sessions, held about monthly.

Examining Committees are nominated by the Dean and are composed of at least two lecturers in the subject in question.

There is no time limit within which an examination must be passed and students may sit examinations as many times as necessary.

There is a series of compulsory propaedeuticities (see below) for passing certain examinations; however there are no restrictions to registering for the subsequent years of the course. Moreover, to be admitted to the compulsory practical or clinical training students must have passed, before 20th October the exam of "Veterinary internal medicine and veterinary forensic medicine", an examination of the 4th year.

Examinations Propaedeuticities

Year	Subject	Compulsory Preliminary Courses
1	Applied biophysics and statistics	▪
	Propaedeutic biochemistry and molecular biology	▪
	Veterinary biochemistry	▪ Propaedeutic biochemistry and molecular biology
	Veterinary anatomy	▪
	Zoology, ethnography and ethology	▪
	General economy and marketing	▪
	English	▪

2	Veterinary physiology I	▪ Veterinary anatomy ▪ Veterinary biochemistry
	Veterinary physiology II and endocrinology	▪ Veterinary physiology I ▪ Veterinary functional anatomy
	Veterinary functional anatomy	▪ Veterinary anatomy
	General Pathology and Veterinary Pathophysiology	▪ Veterinary microbiology ▪ Veterinary physiology II and endocrinology
	Veterinary microbiology	▪ Zoology, ethnography and ethology ▪ Veterinary biochemistry
	Pharmacology and general veterinary toxicology	▪ Veterinary physiology II and endocrinology

3	Histological and general pathological anatomy	▪ General Pathology and Veterinary Pathophysiology
	Veterinary special pathological anatomy and necropsy	▪ Histological and general pathological anatomy ▪ Parasitology and Parasitic Diseases of Animals ▪ Epidemiology and infectious diseases of animals
	Pharmacology and special veterinary toxicology	▪ Pharmacology and general veterinary toxicology ▪ General Pathology and Veterinary Pathophysiology
	Parasitology and Parasitic Diseases of Animals	▪ General Pathology and Veterinary Pathophysiology
	Epidemiology and infectious diseases of animals	▪ General Pathology and Veterinary Pathophysiology
	Veterinary medical and surgical semeiotic	▪ General Pathology and Veterinary Pathophysiology
	Veterinary diagnostic imaging and laboratory medicine	▪ Applied biophysics and statistics ▪ Veterinary medical and surgical semeiotic
	Veterinary surgical pathology and surgical methods	▪ Veterinary medical and surgical semeiotic ▪ Histological and general pathological anatomy
	Animal breeding and economics of livestock production	▪ Zoology, ethnography and ethology

4	Veterinary surgical clinic	<ul style="list-style-type: none"> ▪ Veterinary special pathological anatomy and necropsy ▪ Veterinary surgical pathology and surgical methods
	Veterinary anaesthesiology and surgical techniques	<ul style="list-style-type: none"> ▪ Pharmacology and special veterinary toxicology ▪ Veterinary surgical pathology and surgical methods ▪ Veterinary surgical clinic
	Obstetrics, pathophysiology of reproduction and artificial insemination	<ul style="list-style-type: none"> ▪ Veterinary medical and surgical semeiotic
	Inspection and control of food of animal origin: primary products	<ul style="list-style-type: none"> ▪ Veterinary special pathological anatomy and necropsy ▪ Infectious diseases, prophylaxis and animal health II
	Infectious diseases, prophylaxis and animal health II	<ul style="list-style-type: none"> ▪ Epidemiology and infectious diseases of animals
	Veterinary internal medicine and veterinary forensic medicine	<ul style="list-style-type: none"> ▪ Veterinary special pathological anatomy and necropsy ▪ Epidemiology and infectious diseases of animals ▪ Veterinary medical and surgical semeiotic
	Animal production	<ul style="list-style-type: none"> ▪ General economy and marketing ▪ Animal feeding and nutrition
	Avian anatomy and husbandry and poultry diseases	<ul style="list-style-type: none"> ▪ Epidemiology and infectious diseases of animals
	Animal feeding and nutrition	<ul style="list-style-type: none"> ▪ Veterinary physiology II and endocrinology ▪ Animal breeding and economics of livestock production

5	Internal Medicine and clinical therapeutic	<ul style="list-style-type: none"> ▪ Parasitology and Parasitic Diseases of Animals ▪ Veterinary diagnostic imaging and laboratory medicine ▪ Pharmacology and special veterinary toxicology ▪ Infectious diseases, prophylaxis and animal health II ▪ Veterinary internal medicine and veterinary forensic medicine ▪ Animal feeding and nutrition
	Veterinary obstetrical clinics	<ul style="list-style-type: none"> ▪ Infectious diseases, prophylaxis and animal health II ▪ Pharmacology and special veterinary toxicology ▪ Obstetrics, pathophysiology of reproduction and artificial insemination ▪ Veterinary diagnostic imaging and laboratory medicine ▪ Veterinary internal medicine and veterinary forensic medicine
	Inspection and control of food of animal origin: processed products	<ul style="list-style-type: none"> ▪ Inspection and control of food of animal origin: primary products

5.4: EVALUATION OF TEACHING

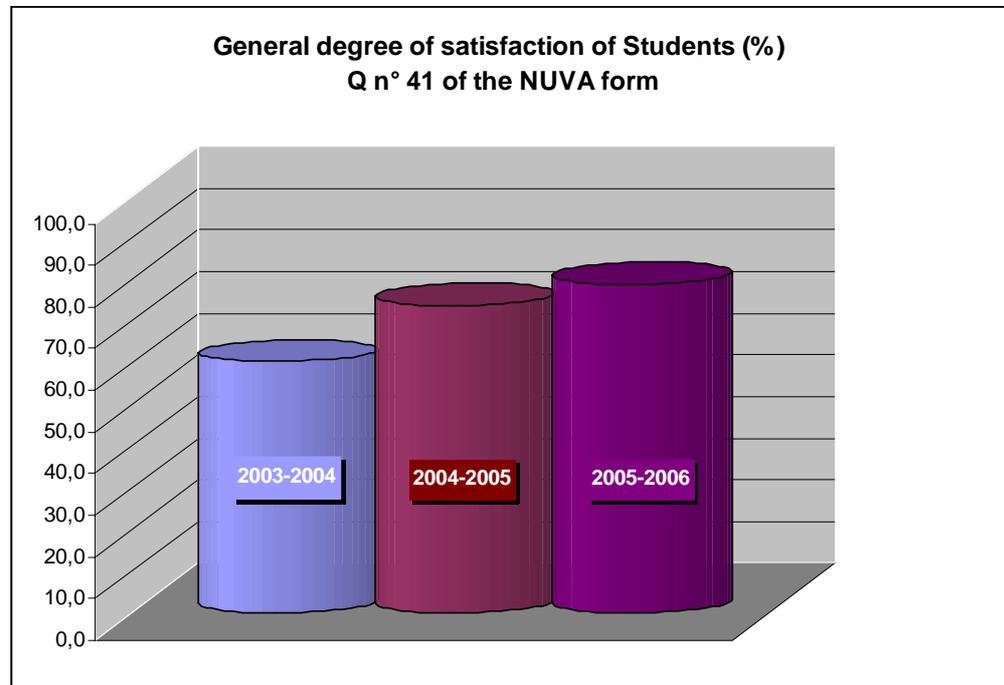
In accordance with law no 370/99 (19/10/1999) from the academic year 2000/2001 the Evaluation Nucleus (NUVA) of our University has set up a system for the periodic, anonymous and voluntary evaluation of teaching activities based on the opinions of students. The NUVA committee sends, every year, to the Ministry of Education and to the National Board for Evaluation of University System a complete report based on the evaluation forms distributed to the students at the end of the courses (Annex 5.2). The NUVA report is composed by six sections including the coverage degree of surveying and the characteristics of the sample (section A); evaluation of lecture or practical exercises rooms and teaching equipments (section B); study load and teaching (curriculum) organisation (section C); quality of the teaching activity and the examination system (section D); knowledge requested, overall degree of satisfaction (section E); Final comments (section F). The attached diagram (Annex 5.3) presents aggregated data about the overall degree of satisfaction processed from the forms distributed to the Faculty of veterinary medicine students during academic years 2003-2004, 2004-2005 2005-2006. Data concerning academic years 2000-2001; 2001-2002 and 2002-2003 were cumulative with at least one of three curricula of our Faculty (Biotechnology, Biotechnology of Reproduction, and Animal Care and Welfare) other than Veterinary Medicine and are not presented.

The structure of the form (Annex 5.4) is organised in a first part composed by some questions (from 1 to 7) regarding the student who fills the form. Data about age, sex, school of origin, year of enrolment, usefulness of previous knowledge are included. The second, and more consistent part, includes questions with a fixed answers (from 8 to 41), ranging from "absolutely not" to "absolutely yes", with two intermediate answers, about the student's evaluation of the faculty structures such as lecture halls, exercises, practical and group work rooms, teaching facilities, quality of the teacher and the teaching curriculum.

The anonymous and voluntary questionnaires are distributed by student representatives at the end of each course. The envelope containing the completed forms is sealed and sent to the University's Evaluation Nucleus, which processes, by means of an optic reader, the questionnaires. Once processing has been completed, the forms are forwarded to the lecturer in question and to the Dean together with a summary sheet including the values obtained by each course compared to the Faculty average.

The Dean decides whether or not to comment on the outcome of assessment with the individual teachers.

Currently, negative evaluation does not entail any action being taking against teachers, who are encouraged to improve their teaching on the basis of comments and suggestions put forward by students.



Furthermore the Dean office has set up its own database, collecting, each course, the number of student which pass/fail examinations, the mean mark, the time between the end of the course and the positive examination. This type of monitoring system is very useful to have real time data on the activity within the vet Faculty, to identify and characterize problems and to find early adjustments. (Annex 5.5).

5.5: STUDENT WELFARE

The University of Teramo provides different facilities concerning sports, recreation, canteen, restaurant etc. for all students enrolled.

Different **services** in order to facilitate students' carrier are assured by the Azienda per il Diritto allo Studio Universitario (ADSU). Particularly

- possibility to apply for a reduction in or total exemption from university fees;
- reduction on bus season-ticket;
- contribution to apartment rent;
- scholarships based on family revenue and student proficiency (about 50 Vet. students/year obtain some scholarships);
- free estate agency to facilitate students' accommodation;
- restoration: assured to all students by the means of different canteens and self-services. Students of the Veterinary Faculty have access to the Self-Service "La Stazione", very close to the Molinary building, that operates a low price policy (spending nothing/lunch for full assisted students, Euro 2/lunch for assisted students and Euro 3/lunch for not assisted students). Students also have access to the University Canteen, in the Centre of the town and other restaurants near the different University sites;
- part-time jobs within the structures of the University: students are involved in different jobs in the Departments or in the Faculty for a 150 hours job period (about 1290 Euro). About 50 Vet. students/year apply to this part time job.

Moreover, the University sustains **language learning** with the University Centre for Modern Languages. This structure, located in the centre of the town (at about 2 km from the Faculty) and available to all students, has two multimedia classrooms with individual workstations connected to the Internet and to the more important European TV, VCR and DVD players to play films. Language learning can be done in *self-study mode* using several appropriate softwares or following *regular courses* (from October to January and from March to June) and *one-to-one courses*. The Centre organises a final test for the following international certifications: DELF and DALF for French; Cambridge and TOEFL for English; DELE for Spanish; Zertifikat Deutsch for German; and CILS for Italian as a foreign language (the latter specifically addressed to students from abroad).

Sports facilities are assured by the CUS (Centro Universitario Sportivo) which is financed by the University and by the University Ministry. Particularly, CUS Teramo belongs to a sports field to facilitate students sporting activities. CUS also makes arrangements with different private sports centres allowing students a reduction of 50% on subscription.

Within the Faculty of Veterinary Medicine, there are 3 **students' associations** that have a dedicated area in the Faculty. The activities in which these associations are involved are:

- co-ordinating students activities;
- information on curricular and extra-curricular activities;
- cultural and sports activities: these are mainly sustained and funded by the University (about 87.000 Euro/year for the whole University) by the means of a Committee that determines which activities have to be financed. Different activities financed in the last years have involved specifically sports and cultural proposals of Veterinary Students associations (about five per year), aimed to complete some aspects of veterinary cultural background. Some of them are:
 - o the yearly football tourney which involves students (both males and females) and lecturers equips;
 - o dogs shows: organised yearly with official judges of the Italian National Kennel Club;
 - o horses and donkeys show and relevant conference: organised with the Association of the Murgese Horse and the Martina Franca Donkey;
 - o Brown Swiss cow show and relevant conference: organised with the National Association of the Brown Cow;
 - o Conference on Italian laws for stray dogs: organised with Public Veterinary Services, and the Regional Veterinary Association;
 - o Conference on Dog obesity: organised with the Veterinary Scientific Association on Pet Nutrition;
 - o Conference on non-conventional pets: organises with the Italian Society of Veterinarians working on Non Conventional Pets;
 - o Conference on traditional pastoralism in Abruzzo Region.

Each Faculty site is provided with a **photocopying** self-service area and a self-service point to register for examinations (examination registration is done exclusively via the University network through on-line registration).

Each student, from the summer of 2007, is provided with a **personal E-mail**, accessible from the Faculty or from home, which will allow not only a mailing service but also the ability to consult and print their personal curriculum situation, certificate, fees deadlines, etc.

The University has a **radio studio** that allows the students from all the Faculties to experience with radio transmission. The students of the Veterinary Faculties realised in the past years some radio programmes on animal behaviour, common animal health problems etc., supervised by some teachers.

The Veterinary Faculty organises each year, in November, the “**First-year Students Day**” during which the Curriculum is illustrated by the Dean, all lecturers are presented, Faculty services are outlined, and the Faculty white coat is given to each first year student for motivation.

For students with problems (social problems, study problems, career development, job selection) many services are assured.

The University and the ADSU provide all the conditions and help for students with health problems and **disabilities** (individual tutorship, accompanying service, specific software and teaching material, etc.).

Each study problem can be faced by all students applying to the **Tutorial and Didactics Manager Office** to the person in charge that refers directly to the Dean and to all the lecturers and is able to solve most common difficulties.

For each student however the Faculty assigns, at the moment of registration, a **personal tutor (individual tutorship)** extracted randomly among the lecturers of the Faculty. All the lecturers/tutors have to follow the Faculty Tutorial Rules that imply 3 types of assistance, i.e. for information, knowledge and relational problems. Particularly, each tutor has to give:

- personal assistance and orientation follow-up during the study progress,
- facilitated contact with all the Faculty lecturers to improve course participation, resolve any doubt on examinations or didactics material,
- help in organising a study program and in studying methods,
- help for the orientation of *post-lauream* studies (masters, specialisation schools, etc.).

An extended and systemic example of individual tutorship has been carried out in the last two years with students of the 4th and 3rd year with delayed exams: each student with delayed exams was admitted to sustain examinations in all the sessions (also sessions during the

lessons period, as reserved to “out of course” students) on condition that he/she established a studying program with its/her tutor in order to recover their delay.

However, due to the availability of the teaching staff, few students make extensive use of the tutorial service.

Another type of tutorship is **group or collective tutorship** that is held by the Faculty Tutorial Committee in order to solve common organising problems or to give extensive information and assistance (during students assembly).

Another type of assistance given to students to solve study problems is the “**remedial courses**”, organised by the Faculty when several students demonstrate difficulties in passing an exam, as confirmed by the data analyses done from the Dean Office database on individual students career. A recent application of this study support has been done for the Pathological Anatomy course that has been repeated for delayed students.

For students inclined to study in a foreign country, the University provides support through the **International Relationship Office** which organises stages and studying periods in other Veterinary Faculties following the Erasmus programme (mainly with Spain Faculties), the Leonardo da Vinci programme, and the CRUI Stage programme (organised by the Conference of the Rectors of Italian Universities).

Finally, information and support to career development and **job placement** are given both by the Faculty by means of the Tutorial and Didactics Manager Office and by the University through the Job Placement Office. The University of Teramo adheres to the Alma-Laurea network which represents a system including 50 Italian Universities and whose role is to include the Curriculum of all degree students and to connect them with business, post-graduate courses, etc.

2 - COMMENTS

The combined result of teaching organisation and teaching assessment system (even if recently set-up) have been designed to supply of an efficient teaching. The reasonably young age of the teaching staff and its associated enthusiasm and cooperation in new didactic activities have allowed the Faculty, despite difficulties related to logistic, to adapt and upgrade the curriculum. Teachers have generally demonstrated a great aptitude for checking their work and for modifying or improving their programmes in order to allow undergraduates students to acquire satisfactory preparation. To date (but also in previous years – 2003) the

Faculty expressed a great interest in external evaluation as an opportunity to adopt actions to improve both teaching and study conditions.

To assure however the accomplishment of didactic objectives, improvements in teaching environment and up-to-date facilities, supported by adequate infrastructures, are necessary.

Students participation in the design and monitoring of courses is generally large and appreciate and, regardless facilities sometimes inadequate, a constant growth in degree of satisfaction can be recorded as an appreciation for teaching staff effort.

3 - SUGGESTIONS

Even if work made in recent years (actions to better suit with a good programme organisation) has to be checked, particularly with regard to the further co-ordination, a great effort has to be done to improve teaching efficacy and reduce students' delay in examination. Probably a greater amount of practical teaching, supported by improved facilities, should help students to optimise their studying time. Furthermore a greater selectivity during the first and second year and a system to standardise the scientific preparation and knowledge of the students applying to the Faculty should improve teaching efficacy.

CHAPTER 6

FACILITIES AND EQUIPMENT

1 - FACTUAL INFORMATION

6.1.: PREMISES IN GENERAL

Teramo's Faculty of Veterinary Medicine is mainly located in the Municipality of Teramo, where are set the "Molinari building" and the "Cartecchio building" ("CA") while the Faculty Farm and some premises for large animals are located in Chiareto about 16 km away from Teramo's City Centre.

The **Molinari building** ["M"] (see **annex 6.1 - plan 1-5**) is situated in Piazza Aldo Moro and houses basic sciences such as Anatomy, Chemistry, Biochemistry, Molecular Biology, Biophysics, Biostatistics, Physiology, Genetics, Epidemiology, Immunology, Microbiology as well as Pathological anatomy, Infectious diseases, Parasitology and Food Hygiene/Inspection. The "M" is situated near the city centre, five minutes by foot from the railway station. In 2003 it has been completely renovated to allow the establishment of university's offices, laboratories and other facilities according to sanitary regulations. The four-storied building includes lecture halls, studying rooms with computer/internet facilities, the Library, the Students' Office, a refreshment area as well the premises and facilities of Department of Comparative Biomedical Sciences (DCBS) and the Food Hygiene and Inspection Unit a part of the Department of Food Sciences.

The lecture-halls house teaching activity of the first and second year of the Veterinary Medicine Curriculum (see **annex 6.1 - plan 3**), the Biotechnology and Biotechnology of Reproduction curricula and finally the Animal Care and Welfare curriculum. Practical exercises as well as the tutorial or the group work are held in the laboratories or in dedicated rooms such as dissecting and necropsy room (see **annex 6.1 – plan 2**).

Students and staff may use the outdoor parking areas or the parking facilities located around the building.

The **Cartecchio building** ["CA"] (see **annex 6.1 - plan 6-12**) is located in Viale Crispi, approximately 2 Km far from "M", and includes the larger part of the Department of Veterinary Clinical Sciences (DVCS) and two Units of the Department of Food Sciences

(DFS). “CA” comprises also the lecture rooms (see annex 6.1 - plan 8,9) for the last 3 years of the Veterinary Medicine Curriculum, a refreshment area, a studying room with computer/internet facilities. The Veterinary Teaching Hospital (VTH) takes-up the lower 3 floors of the seven-storied building (see annex 6.1 - plan 6-8). The VTH contains premises and facilities of Small Animals Clinic and the Large Animals Clinic including consulting rooms, diagnostic laboratories, operating theatres, diagnostic imaging, stables, hospitalisation rooms, isolation facilities. The ground floor and the top three floors comprise administrative offices of DVCS, Teacher studies and the laboratories pertaining to the DFS Unit of Animal Production, Nutrition and Foods and the DFS Unit of Veterinary Pharmacology and toxicology (see annex 6.1 - plan 9-12).

The **Chiareto facility [CH’]** (see annex 6.1 - plan 13-15) is located in a division of the Municipality of Bellante and comprises a building with a lecture room, a smaller room for tutorial or practical work, laboratories and offices of the Obstetrics and Gynaecology Unit of DVCS including the Artificial Insemination Centre. Stables, cowshed, sheepfold, pigsty are splitted into the Faculty Farm where are stalled normal animals, separate by the Obstetrics and Gynaecology Unit of DVCS where are hospitalised large animals for reproduction purposes. Furthermore Chiareto houses the Horse’s Treadmill plant of DVCS and the public sanitary kennel where abandoned and stray dogs are firstly admitted to be health controlled (see annex 6.1 - plan 13).

6.2: PREMISES USED FOR CLINICS AND HOSPITALISATION

Table 6.2.1: Places available for clinics and hospitalisation

- number of hospitalisation places for cattle	8
- number of hospitalisation places for horses	29
- number of hospitalisation places for small ruminants	35
- number of hospitalisation places for pigs	3
- number of hospitalisation places for dogs	29 + 40*
- number of hospitalisation places for cats	8
- Intensive Care Unit	
- small animals	11
- small animals post-op	4
- horses	2
Number of animals that can be accommodated in isolation facilities;	
- small animals	10
- farm animals and horses	2

* public sanitary kennel

6.3: PREMISES FOR ANIMALS

The faculty has a small Faculty Farm in Chiareto including stables, cowshed and sheepfold permanently occupied by normal animals, mainly horses, cattle and sheep those are maintained for the practical teaching of veterinary semiotic, animal husbandry, feeding routine, herd hygiene and handling livestock. Herd health and industrial management of farm animals are taught in several farms agreed for teaching and research purposes. Visits to those regional industrial pig farms, rabbit farms and dairy cows farms are routinely organised.

The microbiology unit of DCBS includes a temperature controlled room with 6 sea water tanks with recirculation system containing crustaceans bivalve molluscs (*M. galloprovincialis*, *Chamelea gallina*, *Ostrea edulis*)

The following table refers to the totality of places for animals disposable at the Faculty of Veterinary Medicine

Species	# of hospitalisation places (location)			# of places for normal animals
	CH	CA	isolation facilities CA	Faculty Farm CH
Cattle	8	-	2	10
Horses / donkeys	22 + 5 external paddocks	9°		14
Sheep / goats	15	20		60
Pigs				3
Dogs	40*	43°	10	-
Cats	-	10°		-
Fallow deer				4

* public sanitary kennel

° including ICU and post-op recovery places

6.4: PREMISES USED FOR THEORETICAL , PRACTICAL AND SUPERVISED TEACHING

The Faculty of Veterinary Medicine is furnished of several lectures rooms, different in size and capacity, assigned to the 5 years of the curriculum as well as to the classrooms of the other Curricula. Lecture rooms are equipped with overhead and computer projectors, the slide projector is available on request and most of them have a microphonic system. All the

lecture halls of “M” and “CA” are connected to the University network and some are equipped for audio-teleconference.

TABLE 6.4.1: PREMISES FOR LECTURING

All lecture halls, seminar and studying rooms belong to the Faculty. Premises belonging to Departments Units such as libraries or meeting rooms and some laboratories, are used for tutorial, group work and for practical exercises by small number of students as well as for the teaching activities related to the degree thesis.

N°	Name	No. seats	Overhead projector	Slide projector	PC projector	Network connection	VCR/ DVD	Microphone system
1	2 nd year VM	112	yes	no	yes	yes*	no	yes
2	1 st year VM	132	yes	no	yes	yes*	no	yes
3	ACW1	64	yes	no	yes	yes	no	yes
4	ACW2	42	yes	no	yes	yes	no	yes
5	ACW3	32	yes	no	yes	yes	no	yes
6	Specialisation	32	yes	no	yes	yes	no	no
7	Faculty Room	45	yes	no	yes	yes	no	no
8	3 rd year VM	63	yes	no	yes	yes*	yes	yes
9	4 th year VM	56	yes	no	yes	yes*	yes	yes
10	5 th year VM	56	yes	no	yes	yes*	yes	yes
11	Polifunctional	24	yes	no	yes	yes	yes	yes
12	Chiareto	26	yes	no	yes	no	no	no

* equipped for audio-teleconference

TABLE 6.4.2. PREMISES FOR GROUP WORK

For group work are available all laboratories and the libraries of the Departments

Table 6.4.2.Premises for group work			
No	NAME	SEATS	Location
1.	PATHOLOGIC.ANATOMY LIBRARY	10	M
2.	INFECTIOUS DISEASES LIBRARY “COMPAGNUCCI”	15/20	M
3.	LIBRARY DEP.T VET CLINICAL SCIENCES	10	CA

TABLE 6.4.3. PREMISES FOR PRACTICAL WORK

Rooms available for practical work of small groups of students

N°	Name	No. seats	Equipment	Location
1.	Microscope room (DCBS)	30	Optical microscope, Microscope projector, videos	M
2.	Transmission Electron microscopy room (DCBS)	4	TEM	M
3.	Scanning electron microscopy room (DCBS)	5	SEM	M
4.	Morphometry lab (DCBS -Anatomy Unit)	5	Image analyser for morphometric and quantification analysis PC projector, network connection	M
5.	Parasitology lab. (DCBS Infectious unit n° 10)	10	Light microscope, Stereomicroscope Centrifuge, Chemical Extractor fun Baermann apparatus, PC and camera picture image system	M
6.	Aquarium lab (DCBS Infectious unit n° 2)	4	6 tanks (50L or more each, containing sea water with recirculating system)	M
7.	Molecular Biology lab (DCBS Infectious unit n° 3)	3	Vortex Water bath Micro centrifuge Precision microliter Pipettes Sterile Extractor fun Electrophoresis apparatus UV Transilluminator, PCR Thermal cyclers, Horizontal electrophoresis systems.	M
8.	Virology lab (DCBS Infectious unit n° 5)	5	Vertical Laminar Flow Cabinet, CO ₂ Cell Incubator, Culture Microscopes	M
9.	Kitchen room (DCBS Infectious unit n° 8)	5	Autoclaves	M
10.	Serology lab (DCBS Infectious unit n° 9)	5	Vertical electrophoresis systems, Spectrophotometer, UV Microscope	M
11.	Bacteriology lab (DCBS Infectious unit n° 7)	15		M
12.	Cell culture lab (DCBS Infectious unit n° 6)	5	Vertical Laminar Flow Cabinet, CO ₂ Cell Incubator, Culture Microscopes	M
13.	Mycology lab. (DCBS Infectious unit n° 11)	5	Thermostat, Fridge to stock Cultural Medium (Mycosel Agar, Potato Agar, Sabouraud CAF Agar)	M
14.	Histopathology lab. (DCBS Pathological Anatomy unit n° 1)	15	Automatic tissue processor, semi-automatic tissue processor, automatic colourer, multi-head microscope (2 stations)	M
15.	Immune-histochemistry lab (DCBS Pathological Anatomy unit n° 2)	10	Optic microscope video analysis system, reagents: primary and secondary polyclonal and monoclonal antibodies, buffers immunodetecting kit	M
16.	“Corradino Motti” lab (DCBS Biochemistry Unit)	15	pH-meters, spectrophotometers stirrers, Bunsen, burnery diaphanoscopes, overhead projector	M

17.	Dissecting and necropsy room (DCBS – Anatomy, Pathological Anatomy Units; DFS - Food Hygiene/Inspection Unit)	50	5 dissection / necropsy tables 1 cold room (+ 5 C°), 1 cold room (-20 C°/-30 C°), 3 450 lt. freezers (-20 C°/-30 C°) live video-projection system. Air conditioned, fumes suction and filtration plant	M
18.	PCR Laboratory (DFS - Food Hygiene/ Inspection)	3	Gel Doc, Thermocycler, Spectrophotometer, Absorbance reader, Laminar flow cabinet.	M
19.	Microbiology Laboratory (DFS Food Hygiene/ Inspection)	8	Vitek, Vidas, Aqualab, pH-meters, Incubators, Thermostat fridge, Chemical cabinet, Optical microscopy	M
20.	Pathogenicity Assay Laboratory (DFS Food Hygiene and Inspection)	3	Laminar flow cabinet, Centrifuge, Ultracentrifuge	M
21.	Feedstuffs chemical composition assessment laboratory	5	A- pHmeters; CR300 Minolta colorimeter; oven; muffle; automatic distillation and titration Kjeltex system with digestion unit for Nitrogen determination; Fat extraction system equipped with hydrolysis unit; Hot extraction unit for fibre determinations according to Weende, Van Soest etc., equipped with cold extraction unit for defatting samples; Polarimeter.	CA
22.	Specific nutrients determination laboratory	5	UV-VIS Spectrophotometer; Atomic Absorption Spectrometer; Gas-Chromatography with FID, ECD, NPD detectors.	CA
23.	Feedstuffs mycotoxins assessment laboratory	5	HPLC system equipped with separation module, post-column reaction unit and fluorescence, photodiode array and refractive index detectors; Solid-phase extraction system; Microplate reader.	CA
24.	In vitro digestibility assessment laboratory	5	Daisy incubator	CA
25.	Pharmacology and Toxicology Laboratory	5	High Performance Liquid Chromatography (HPLC) with fluorescence detector, UV detector and electrochemical detector. Accelerated Solvent Extractor (ASE). Gas Chromatography Mass spectrometry (GC-MS). Isolated organ bath. CO2 incubator. Refrigerated centrifuge. Reverse phase microscope. Sterilization autoclave.	CA
26.	Clinical Pathology Laboratory	8	ADVIA 120 Hematology System Bayer, Microscopes Nikon eclipse E600 and Nikon E200 Aerospray Slidestainer 7120 Hematology Wescor/Delcon ACL 7000, Instrumentation Laboratory	CA

			Olympus AU 400 Urilux S Roche; AU 400 Olympus Adaltis PersonalLAB	
27.	Digitalized diagnostic imaging processing room	10	Negativoscope and computer radiography viewer and printers	CA
28.	Semen assessment laboratory and Embryo assessment laboratory	8	fluorescence microscope with TV projection, Semen quality analyser, contrast phase optical microscope with heat plate, spectrophotometer, pHmeter, refrigerated centrifuge, paillettes preparation device, tank for cryoconservation stereomicroscope with TV projection, CO2 incubator for embryo maturation, cryobath for embryos, laminar flux hood	CH

6.5. DIAGNOSTIC LABORATORIES AND CLINICAL SUPPORT SERVICES

Instruments available for clinical pathology and some diagnostic pathology belongs to the Department of Veterinary Clinical Sciences including the Internal Medicine and the Obstetric and Gynaecology Units. The diagnostic laboratory of the Pathological Anatomy; Microbiology, Infectious and Parasitic Diseases and Avian Pathology Units belongs to the Department of Comparative Biomedical Sciences. Labs of Pharmacological and Toxicological Unit as well as those of the Animal Husbandry, Nutrition and Feedstuffs Unit belongs to the Department of Food Sciences.

6.5.1 DIAGNOSTIC LABORATORIES

A) Department of Comparative Biomedical Sciences

The diagnostics laboratories of the DCBS include the laboratories pertaining to the Pathological Anatomy Unit and Infectious and Parasitic Diseases and Avian Pathology Units.

Pathological Anatomy Service and diagnostic laboratories (see Annex 6.1 plan 2)

The Necropsy room and the laboratories are located in the “M”

All the facilities are maintained and operated to ensure the safety of students and staff and to prevent the spread of infectious agents.

The *Pathological Anatomy Service* provides:

- A- Necropsy service for the Veterinary Teaching Hospital and Private Practitioners
- B- Histopathology and cytology diagnostic laboratory.
- C- Immuno-histochemistry diagnostic laboratory.
- D- Electron microscopic laboratory.

Frequency of work: Monday to Friday

A- Necropsies

Objectives: post mortem examination on cadavers or isolated organ. The isolated organs are obtained from slaughterhouses and carried by means of a proper vehicle.

Instruments: five dissection/necropsy tables, 1 cold room (+ 5 C°), 1 cold room (-20 C°/-30 C°), three 450 lt. freezers (-20 C°/-30 C°), live video-projection system. Air conditioned, fumes suction and filtration plant

B- Histopathology and cytology diagnostic laboratory.

Objectives: cytological, histological and ultrastructural diagnostics for teaching purposes, research activities and to provide a diagnostic service.

Instruments: automatic tissue processor, semi-automatic tissue processor, 2 video connected automatic colourer multi-head microscopes, image analyser for morphometric studies on tissues investigation.

C- Immunohistochemistry diagnostic laboratory.

Objectives: immunohistochemical analysis for the phenotypic characterization of neoplasms and identification of biological agents (viruses, bacteria).

Instruments: Optic microscope video analysis system, reagents: primary and secondary polyclonal and monoclonal antibodies, buffers immunodetecting kits.

D- Ultrastructural diagnostic laboratory.

Objectives: Ultrastructural diagnostic laboratory that support clinical activity of the Veterinary Teaching Hospital and Private Practitioners.

Instruments : Transmission Electron microscopy

Infectious and parasitic disease service and diagnostic laboratories (see Annex 6.1 plan5)

The Infectious and parasitic disease laboratories are located in the “M”

The *Infectious and parasitic disease service* includes:

A- Microbiology and Infectious Diseases laboratories

B- Parasitology diagnostic laboratory

C- Mycological diagnostic laboratory

D- Molecular biology laboratory

Frequency of work: Monday to Friday

A- Microbiology and Infectious diseases laboratories n° 3,5,7, 9

Objectives: activities related to laboratory diagnostics using conventional and bio molecular techniques, of infectious, parasitic and mycotic diseases of domestic and exotic animals. All activities are meant for teaching and research purposes.

Instruments: optic microscopes, fluorescence microscope, reverse microscopes, stereomicroscopes, biohazard hoods, chemical hoods, PL3 biosafety unit, ^{-80°C} freezer, refrigerated centrifuge, DNA concentrator, systems for horizontal and vertical electrophoresis, thermocyclers, gel analysis real time PCR systems, spectrophotometer, image analyzer, CO₂ incubators, fridge thermostats, microtome, spectrophotometer autoclaves, tissue sectioner for microplates, isolators, for organ culture, cryostat.

B- Parasitological diagnostic laboratory

Objectives: Coprological examination for gastrointestinal and respiratory parasites (fecal flotation test, direct smear and stained fecal smears, fecal sedimentation, Baermann technique), Identification of endo and ecto-parasites by morphometric examination with microscope and stereomicroscope, Blood examination for haemoprotozoan parasites (direct smear and stained smears, modified Knott's test), Identification of ticks, mites, lice, fleas and flies, diagnosis of cutaneous diseases caused by nematodes, diagnosis of leishmaniosis and toxoplasmosis by Immuno Fluorescent Assays (IFATs)

Instruments: Light microscope, Stereomicroscope, Centrifuge Chemical Extractor fun Baermann apparatus PC and camera picture image system.

C- Mycological diagnostic laboratory Lab n. 2

Objectives: Diagnosis of cutaneous and deep mycoses.

Instruments: Thermostat Fridge to stock Cultural Medium (Mycosel Agar, Potato Agar, Sabouraud CAF Agar)

D- Molecular Biology diagnostic laboratory Lab n.3

Objectives: Molecular biology technique (DNA extraction, Polymerase Chain Reaction, Reverse Line Blot hybridization, Restriction Fragment Length Polymorphism)

Instruments : Vortex Water bath, Microcentrifuge Precision, microliter Pipettes, Steril Extractor fun Electrophoresis apparatus UV Transilluminator PCR, Thermal cyclers

B) Department of Veterinary Clinical Sciences (see Annex 6.1 plan 7, 9, 14, 15)

The Clinical Pathology Laboratory of DVCS gives a service for consulted or hospitalised animals at the Veterinary Teaching Hospital as well as for Private Practitioners and provides:

- A- clinical haematology laboratory
- B- clinical cytological diagnostic laboratory
- C- coagulation panel
- D- biochemical profile
- E- serum protein electrophoresis,
- F- urinalysis
- G- clinical endocrinology laboratory
- H- haemogasanalysis
- I- clinical pathology emergency laboratory – Cartecchio
- L- clinical pathology emergency laboratory – Chiareto

A- Clinical Haematology Laboratory

Objectives: haematological profile CBC (RBC,Hb,Hct,MCV,MCH,MCHC,RDW,NRBC/100, Reticulocytes, CRP, reticulocytic index) and cytological diagnosis on biptic specimens.

Instruments: ADVIA 120 Haematology System Bayer, Microscopes Nikon eclipse E600 and Nikon E200 Aerospray Slidestainer 7120 Hematology Wescor/Delcon

Frequency of work: Monday to Friday

B- Clinical cytological diagnostic laboratory

Objectives: cytological diagnosis on biptic specimens

Instruments: Microscopes Nikon eclipse E600, Aerospray Slidestainer 7120 Haematology Wescor/Delcon

Frequency of work: Monday to Friday

C- Coagulation panel

Objectives: Evaluation of coagulation Pt, aPTT, Fibrinogeno, ATIII, D-Dmeri, Plasma FDP (Kit FDP plasma, Roche)

Instruments: ACL 7000, Instrumentation Laboratory

Frequency of work: Monday to Friday

D- Analytical Biochemistry

Objectives: biochemical profile CPK, AST (GOT), ALT (GPT), ALP, GGT, Bilirub. Tot, LDH, NH₃, Glucose, Cholesterol, Tryglicerides, total protein, albumine, globuline, BUN, Creatinine, Calcium, Phosphorus, Sodium, Potassium, Cloride, Magnesium, Fructosamine, Beta-hydroxi-butyrrate, NEFA, Lactate.

Instruments: Olympus AU 400

Frequency of work: Monday to Friday

E- Serum protein Electrophoresis

Instruments: Electrophoresis automated system, Esprime 72, Amplimedical

Frequency of work: Monday to Friday

F- Urinalysis

Objective: Chemical-Physical Urinalysis, Sediment, Urinary Protein/Urinary creatinine, urinary biochemical (Na,K Ca,P) ()

Instruments: Urilux S Roche; AU 400 Olympus, light microscope Nikon E200

Frequency of work: Monday to Friday

G- Clinical Endocrinology Laboratory

Objectives: ELISA-based steroidal hormones assessment

Instruments: Adaltis PersonalLAB

Frequency of work: Monday to Friday

H- Haemogasanalysis

Objectives: pH, PCO₂, PO₂, HCO₃, TCO₂, BE_b, BE_{ecf}, SBC, Ca (ph4), Anion Gap, pO₂/FIO₂, Na, K, Cl, Ca⁺⁺

Instruments: Synthesis 20 , Instrumentation Laboratory)

Frequency of work: 7 days/week

I- Emergency clinical pathology laboratory (“CA”)

Objectives: CBC (RBC,Hb,Hct,MCV,MCH,MCHC,RDW,NRBC/100, Reticolocytes, CRP, reticulocytic index); emergency biochemical profile (Albumine, total protein, BUN, creatinine, AST, ALT, ALP, Phosphorus, Magnesium)

Instruments: IDEXX LaserCyte; Vet-test IDEXX

Frequency of work: 7 days/week

L- Emergency clinical pathology laboratory (“CH”)

Objective: CBC (RBC,Hb,Hct,MCV,MCH,MCHC,RDW); emergency biochemical profile (Albumine, total protein, BUN, creatinine, AST, ALT, ALP, Phosphorus, Magnesium)

Instruments: SEAC Hemat-8; Vet-test IDEXX

Frequency of work: 7 days/week

The Obstetric and Gynaecology Laboratories is situated in Chiareto and serves mainly the Large Animals facilities. It includes the seminology and the embryo laboratories

Semen assessment laboratory

Objective: semen evaluation, packaging and freezing semen

Instruments: fluorescence microscope with TV projection, Semen quality analyser, contrast phase optical microscope with heat plate, spectrophotometer, pHmeter, refrigerated centrifuge, paillettes preparation device, tank for cryoconservation.

Frequency of work: Monday to Friday

Embryo assessment laboratory

Objective: embryo evaluation, incubation and freezing.

Instruments: stereomicroscope with TV projection, CO2 incubator for embryo maturation, cryobath for embryos, laminar flux hood.

Frequency of work: Monday to Friday

C) Department of Food Sciences

The diagnostics laboratories of the DFS include the laboratories of Animal Husbandry, Nutrition and Feedstuffs Unit and those of Pharmacology and Toxicology Unit. Both are located in “CA”

Animal Husbandry, Nutrition and Feedstuffs Laboratories (see Annex 6.1 plan 11,12)

The Animal Husbandry, Nutrition and Feedstuffs Units provides:

A- Feedstuffs chemical composition assessment laboratory

B- Specific nutrients determination laboratory

C- Feedstuffs mycotoxins assessment laboratory

D- In vitro digestibility assessment laboratory

Objectives: the main topics of the Unit are: to assess chemical composition of fodder and feedstuffs in order to perform a correct rationing, for both livestock and companion animals; to prepare feedstuffs for experimental purposes; to study the quality of meat and milk as related to husbandry technologies and animal welfare; to assess specific nutrients contents (e.g. fatty acids, CLA) in the feedstuffs and in foods of animal origin (meat, milk and cheeses); to assess mycotoxins contamination in feeds and products of animal origin.

Instruments:: A- pHmeters; CR300 Minolta colorimeter; oven; muffle; automatic distillation and titration Kjeltex system with digestion unit for Nitrogen determination; Fat extraction system equipped with hydrolysis unit; Hot extraction unit for fibre determinations according to Weende, Van Soest etc., equipped with cold extraction unit for defatting samples; Polarimeter.

B- UV-VIS Spectrophotometer; Atomic Absorption Spectrometer; Gas-Chromatography with FID, ECD, NPD detectors. C- HPLC system equipped with separation module, post-column reaction unit and fluorescence, photodiode array and refractive index detectors; Solid-phase extraction system; Microplate reader. D- (mainly in ruminants) Daisy incubator.

Frequency of work: Monday to Friday

Pharmacology and Toxicology Laboratory (see Annex 6.1 plan 11,12)

Objectives- the topics of the service are: a) to study and evaluate the presence of chemical residues in food of animal origin; b) field and laboratory studies on toxic effects of some substances such as Polychlorinated Biphenyls, Organochlorine pesticides and hydrocarbon aromatic compounds; c) *in vitro* pharmacodynamic studies to clarify the receptors pathways involved in some mechanical myometrial and follicular dysfunctions.

Instruments: High Performance Liquid Chromatography (HPLC) with fluorescence dectector, UV detector and electrochemical detector. Accelerated Solvent Extractor (ASE). Gas Chromatography Mass spectrometry (GC-MS). Isolated organ bath. CO2 incubator. Refrigerated centrifuge. Reverse phase microscope. Sterilization autoclave.

Frequency of work – Monday to Friday

6.5.2 CENTRAL CLINICAL SUPPORT SERVICES (SEE ANNEX 6.1 PLAN 6-8, 13,14,15)

A) Department of Veterinary Clinical Sciences (DVCS) - Veterinary Teaching Hospital

The Veterinary Teaching Hospital (VTH) takes-up the lower 3 floors of the “CA” building and the approximately half of the “CH”. The DVCS with its Units, Internal Medicine, Obstetric and Gynaecology and Surgery manage the VTH which contains premises and facilities of Small Animals Clinic and the Large Animals Clinic:

Large Animals Clinic

- large animal consulting rooms
- large animals standing surgery, video assisted diagnostic and surgical procedures as well as locomotion system ultrasound
- Horse Treadmill
- large animals pre-surgical room
- surgical theatre for large animals
- large animals padded boxes for induction and recovery from anaesthesia
- large animals radiological room
- hospitalisation stables including intensive care for colics
- hospitalisation cowshed, sheepfold and pigsty
- large animals isolation facility
- emergency blood test laboratory
- Semen assessment laboratory
- embryo assessment laboratory
- artificial insemination centre

Small Animals Clinic

- small animal consulting rooms
- pre-surgical room for small animals including recovery cages
- sterile small animal surgical theatres
- small animals surgical theatre for minor procedures
- small animal radiological room with fluoroscopic facility and linear tomography
- abdominal and chest ultrasound and echocardiography room
- small animals specialist diagnostic procedure (GI endoscopy, Airways endoscopy, dentistry, ophthalmology, neurological electrodiagnostics, electrocardiography)
- hospitalisation unit for dogs
- hospitalisation unit for cats
- Intensive Care Unit for small animals
- small animals isolation facility

All the abovementioned consulting rooms, diagnostic services and surgery theatres are fully equipped.

Clinical Services

The clinical activities at the VTH are mainly specialised clinical services working as referral centre to support the Private Practitioners (PP). The DVCS Units provide specialised clinical services in andrology, orthopaedics and traumatology, cardiology, dermatology, endocrinology, gastroenterology, obstetric and gynaecology, nephrology, neurology, neurosurgery, ophthalmology, oncology, soft tissue surgery, video assisted diagnostic and surgery on large and small animals referred to the VTH. More routinary clinical activity is limited to the clinical practical teaching activity for the students and consists in consulting, working-up and application of basic surgical procedures (orchietomy or ovario-hysterectomy) performed on local stray small animals (mainly dogs) referred by AUSL.

Internal Medicine Unit:

Objectives: acquisition of clinical cases pertaining to internal medicine either large and small animals for teaching and research purposes.

Frequency of work: Monday to Saturday according to Departmental consulting times (see 7.4).

- **Imaging Diagnostics Service** diagnostic support to the VTH and PP cases computer radiography techniques, fluoroscopy, ultrasound, echo-doppler.
Instruments: CAT Medical Small animals X-Rays equipment with fluoroscopy and linear tomography, CAT Medical Large animal pensile X-Rays equipment, Portable X-Rays equipment, Computer radiography, Ultrasounds Toshiba Aplio 50, Esaote Caris, Toshiba Nemio 20.
- **Cardiology:** diagnostic and therapeutic support to the VTH and PP cases
Instruments: 2 flash card Holter recorders Elite 3, 1 digitalized ECG Holter BMS Century, 2 ECG equipments ArchiWin Esaote, Doppler Vettex Duo 8 MHz Alcyon.
- **Gastroenterology:** diagnostic and therapeutic support to the VTH and PP cases
Instruments: Olympus flexible videoendoscopes rack with DVD recording system
- **Endocrinology:** diagnostic and therapeutic support to the VTH and PP cases
- **Nephrology:** diagnostic and therapeutic support to the VTH and PP cases
- **Dermatology:** diagnostic and therapeutic support to the VTH and PP cases
- **Oncology:** diagnostic and therapeutic support to the VTH and PP cases

All these services are supported by the Clinical Pathology Laboratory

Obstetrics and Gynaecology Unit:

Objectives: the main topics of the Unit are acquisition, both for teaching and research purposes, of clinical cases pertaining to obstetrics, gynaecology, andrology, perinatology from livestock or companion animals and to perform services related to natural mating or artificial insemination.

The work of the unit is divided among different services, some of them involving common clinical devices and instruments, some other specific for the Unit. The latest are:

- **Equine perinatology service:** care and hospitalisation of mares at term with possible dystocya and foals with low birth weight or birth disorders;

Frequency of work: all week on request

Instruments: instruments for monitoring and care; box equipped with video camera to ensure video continuous supervision.

- **Service for the production of refrigerated/frozen equine and bovine sperm** (regional authorisation):

Frequency of work: particularly during the breeding season and on request

Instruments: instruments for collection, analysis, preparation and cryoconservation of sperm (laboratory for semen assessment: see below).

- **Service for the semen delivery** of different species (regional authorisation for bovine, buffalo, swine, rabbit):

Frequency of work: Monday to Friday

Instrumentation: liquid N₂ container for the cryo-conservation of sperm.

- **Artificial equine and bovine Insemination service** (regional authorisation): use of refrigerated/frozen semen in cows and mares stabled at the structure.

Frequency of work: every day, specially during the breeding season for mares

Instruments: material for insemination, ultrasounds for gynaecological check-ups, pistolet for artificial insemination.

- **In vitro bovine embryo production service:** use of in vitro technology to improve genetic selection and expansion of M.O.E.T. program with breeders association.

Frequency of work: on request

Instruments: ultrasounds, instruments for embryo collection, embryology laboratory (see below), instruments for embryo transfer.

- **Mobile gynaecology and obstetrical service:** the Unit normally support farmers on the territory (in accordance to the Agreement with the provincial breeders association) for delivery problems, dystocia, etc.

Frequency of work: on request

Instrumentation: portative ultrasounds, instruments for monitoring and care and for obstetrical surgery (the Unit draw up in advance all the necessary devices for obstetrical problems of different species to be placed on the Faculty bus to reach the farms).

Surgery Unit

Objectives: acquisition of clinical cases pertaining to surgery either large (LA) and small animals (SA) for teaching and research purposes.

Frequency of work: Monday to Saturday according to Departmental consulting times (see 7.4).

- **Anesthesiology and resuscitation service:** Assistance to surgical interventions or invasive techniques requiring analgesia or anaesthesia and pain relief therapy before, during and after surgery

Instruments: 4 Matrix anaesthesia equipments, 2 respiratory ventilators (SA), 2 Draeger anaesthesia equipments with respiratory ventilator, 1 Matrix anaesthesia equipments for LA, 2 respiratory ventilators (LA), 5 Philips ML multiparametric monitors, 1 Philips “Merlin” with integrated modules (SA) and 1 1 Philips Touchscreen with integrated modules (LA), volumetric and syringe infusion pumps.

- **Video assisted diagnostic and surgical service for LA and SA** diagnostics and therapeutics support to the VTH and PP cases using video assisted rigid and flexible endoscopy, arthroscopy, tenoscopy, laparoscopy and thoracoscopy.

Instruments: Olympus and Storz racks for flexible videoendoscopy, arthroscopy, tenoscopy, laparoscopy and thoracoscopy.

- **Surgery Service:** diagnostics and surgical treatment of patients requiring conventional surgical interventions on soft and hard tissues as well as special diagnostics and surgery such as Ophtalmology, Orthopedics and Traumatology, Neurology and Neurosurgery, GI surgery, Respiratory tracts surgery, Urinary tracts surgery etc.

Instruments: fully equipped operation theatres, operative microscope, 2 large animals surgical tables including the complete set for orthopaedics patient positioning and

colic. Video systems with wide screens to allow students to follow the surgical procedure outside the operation theatre.

- Neurological Electrodiagnostic Service: Diagnosis of neuromuscular diseases and other neurological diseases using electrodiagnostics

Instruments: Dantec (Medtronic) 4 channels portable Cantata with EMG and single fiber EMG. NCV, spinal, somatosensory, auditory and visual Evoked potential.

6.6 - SLAUGHTERHOUSE FACILITIES

An internal functional abattoir able and authorised to slaughter cattle, sheep and pigs is not present inside the Faculty of veterinary medicine. Organs (lung, liver, kidney, spleen, uterus) of cattle, sheep, horse and pigs are obtained every week from some slaughterhouses located in the Municipality of Teramo (Nereto - Communal slaughterhouse; Villa Bizzarri, Mosciano, Castel Nuovo Vomano – private slaughterhouses) and L'Aquila or Chieti (Communal slaughterhouses).

The slaughterhouse facilities to which the establishment has access are the following:

- Ascoli Piceno slaughterhouse (cattles, goats and sheeps, horse, swine), Via Castagneti 65 (AP); distance from the establishment: 30 Km; level of activity: animals are slaughtered from Monday to Friday for 7 hours/day. In a week are slaughtered: 250 swine, 70 cattle, 300 goats and sheep and only occasionally horses)
- GA.Salumi slaughterhouse (swine), Corso Adriatico 122 S.Egidio alla Vibrata (TE); distance from the establishment: 23 Km; level of activity: slaughtering days: Monday and Tuesday; in a week are slaughtered: 100 swine.
- Amadori slaughterhouse (poultry), Strada Prov.le 22, Mosciano Sant'Angelo, (TE); distance from the establishment: 18 Km; level of activity: slaughtering days: from Monday to Friday; in a week are slaughtered: 600.000 poultry.
- Fratelli Tomassini slaughterhouse (poultry), Loc. Campiglione, Fermo (AP); distance from the establishment 120 Km; level of activity: slaughtering days: 3 days/week; in a week are slaughtered 15000 poultry

A properly adequate vehicle (car) (Citroen C15) is available for transportation of organs from the slaughterhouses to the Autopsy room. It is maintained and operated to ensure the safety of students and staff and to prevent the spread of infectious agents.

6.7 - FOODSTUFF PROCESSING UNIT

As the Faculty does not have foodstuff processing laboratories, the teachers in this subject organize visits to local foodstuff processing plants, which include some of the most important foodstuffs processing companies in the Region:

- Bontà dei Colli - Cutting plant for red meats; Via Colle Cervinara -Maltignano (AP)
- Salpi - Plant for the production of dried sausages; Strada Comunale Massone - Ancarano (TE);

- Le Delizie Gastronomiche - Plant for the production of foods processed by heat and ready to eat; Via Santa Croce 851, Casette d'Ete (AP);
- Chinook - Plant for the production of smoked salmon packaged under vacuum, S.Reparata Civitella del Tronto (TE);
- Regamar – Plant for the production of marinated seafoods; Via Maiella, Ancarano (TE);
- Montagna dei Fiori - plant for the production of salted meats (hams); Colle S. Maria, Civitella del Tronto (TE);
- Plant for hams'boning, Via Guido Rossa snc, Monte Giorgio (AP);
- Le Fattorie Marchigiane - Plant for the production of dairy products (“pecorino” seasoned cheese, “ricotta” cheese); Località Val Metauro, Fano (PS)
- Centro Carne - Plant for the production of unprocessed meats (hamburgers, meat loafs, splits); Via C. Colombo, Sant'Omero (TE);
- S.Giorgio - Plant for the production of typical dried sausages, Località bivio Croce Montegiorgio (AP);
- GA.Salumi - Plant for the production of dried sausages, Corso Adriatico 122 S.Egidio alla Vibrata (TE);
- CO.A.LAC. – Plant for the processing of raw milk, Zona industriale Marino del Tronto (AP)
- Markets of fresh fishery products of Pescara and San Benedetto del Tronto

6.8 - WASTE MANAGEMENT

Animal organs and carcasses are disposed of by external specialist firms. In 2006 3575 Kg of animal organs and carcasses have been put up with this system. Biological waste is collected in special containers and collected by a specialist external firm. Chemical liquids and other waste material from laboratories are collected by an external firm.

6.9 - FUTURE CHANGES

The most important improvement, in order to provide adequate and professional preparation of the students, will be the renewal of the structures connected to the nearly building of the new Teaching Hospital, as the first part of the complex which will include the Veterinary and Agricultural Faculties.

The site designed to put up the new Veterinary Faculty locate along the National Road SS80, on the east side of Teramo, in the so called “Piano d’Accio” area. This site is adjacent to the railway connecting Teramo to the seaside and to an area where actually the new Teramo public sport services (mainly the stadium) and a commercial centre are under construction. On the whole, the area intended to receive the Scientific Faculties of the University of Teramo is equal to 84,540 m². The first part of this complex, already assigned to a constructor firm, is equal to 21,490m² and will accommodate the Veterinary Teaching Hospital, teachers and supporting staff offices of the Department of Veterinary Clinical Sciences (DVCS) and two Units of the Department of Food Sciences (DFS), lectures rooms and technical support services today placed in Cartecchio.

Particularly the site will be divided in 3 structures: one for teachers and supporting Staff offices and lectures rooms; the second for the Teaching Hospital; the last for Technical and support services (see Annex 6.2).

- The Staff building will develop on a three-storied building:
 - a lower floor for technical rooms and garage.
 - the ground floor, developed on a net surface of 1064 m² which will accommodate the entrance hall; dressing room for students (143 lockers); the library (110 m²); the restoration area and services.
 - The first floor, developed on a net surface of 1914 m² which will contains premises and facilities for the administrative offices of the Department of Veterinary Clinical Sciences and of the Dean; 22 offices for teaching and support staff; a computer room with 17 seats; 8 lectures rooms for a total of 398 seats; services.

The Staff building will be connected to the Teaching Hospital from the ground floor.

- The Veterinary Teaching Hospital will develop on a two-storied building:
 - a lower floor for technical rooms;
 - the ground floor, developed on a total net surface of 2922 m² will contain all premises and facilities for Small and Large Animals hospitalisation and consultation (waiting room; 5 consulting rooms for small animals; 3 consulting rooms for large animals; 2 specialised consulting rooms; 3 centralised labs; 2 emergency labs; radiology and imaging diagnostic rooms; pharmacy; 3 isolation rooms for small animals; 2 day-hospital rooms; 5 hospitalisation rooms; a kitchen; 3 dressing rooms; 2 anaesthetic and intensive care rooms for

small animals; 2 anaesthetic and intensive care rooms for large animals; 3 operating theatres for small animals and 2 operating theatres for large animals; sterilisation facilities and storage rooms; hospitalisation boxes for large animals; isolation boxes for large animals). Furthermore small and large animals necropsy room will complete the VTH.

All the site will be surrounded by 5,500 m² of parking surface.

2 - COMMENTS

The Molinari buildings and its equipment are generally conducive to teaching and to the acquisition of knowledge. Access to the site by public transport are good.

Buildings and equipment are adequate for the activities conducted within them in terms of space, heating, lighting, ventilation and cleanliness. For the presence of meetings, congress taken by the different Degrees the number of teaching rooms is sometimes insufficient.

Health and safety standards are strongly conscientiously observed, as the requirements of good laboratory practice which are conducted by the presence of the technical staff.

In particular, regarding basic material (Anatomy, Physiology and Biochemistry) overall the structures respond adequately to the requirements of undergraduate teaching; this is also true for Infectious diseases likewise Faculty equipment is believed to be suited to a high degree-level teaching. The buildings used for basic training are adequate for the number of students enrolled, without the need for excessive repetition of classes.

Different is the situation for Pathological anatomy and Food Inspection. At present, only a common anatomical and necropsy room is present in the Faculty as a unique premise serving for anatomy, pathology, avian pathology and food inspection. Furthermore, this room is adequate only for small animal necropsies. Necropsy room for large animals is not available and slaughter facilities are not present. The management, depreciation and maintenance costs of such structure with such a vast needs of instruments (knives, scissors, etc) are high and the public administration does not always set aside the funds necessary to cover such costs. The personnel required to manage and correctly maintain such structures and instruments is at the moment kept to the bare minimum (only one technician assigned exclusively to this structure, but associated to Dean secretarial staff) and therefore part of the work is performed by teaching staff and volunteers.

To date, the Cartecchio building and its equipment have been improved but are not completely favourable to teaching and to the acquisition of knowledge. Access to the site by

public transport is good but parking for students is somewhat insufficient. The location, near the crossing with some main roads, does not offer external areas for student relax and for animals walks and give a public image of low appeal. On the contrary, the location is good if considered for noise problems associated with animals hospitalisation.

Buildings and equipment are adequate for the activities conducted within them in terms of heating, lighting, ventilation and cleanliness, even if the University did not make recently investments related to extraordinary maintenance because of the nearly building of the new Teaching Hospital. While equipment has been significantly enhanced, the VTH needs some improvements regarding advanced diagnostic imaging such as CT and/or MRI. Space and adequacy of rooms for practical and clinical work are sometimes insufficient and will surely be improved with the new Hospital. The personnel required to manage the structures and instruments is at the moment kept to the bare minimum and therefore part of the work is performed by teaching staff.

The Chiareto facility is located in a division of the Municipality of Bellante, not too far from the Faculty and public transport to this site is regular; parking for students is available. It comprises a small farm, mainly for horses, cattle and sheep, sufficient for teaching animal husbandry, feeding and farm hygiene even if several industrial farms (mainly rearing dairy cattle, pigs, sheep and rabbits) are arranged to teach and to see industrial livestock production. This site has recently been developed to comply with the necessities of large animals hospitalisation, mainly for reproduction purposes. The Faculty Farm will be restored in the next period to improve the quality of the premises and facilities. Furthermore, the recent transfer to the Faculty of the Public Sanitary Kennel (where abandoned and stray dogs are firstly admitted to be health controlled) complete a good availability of animals for teaching purposes, particularly during the last year and the compulsory training period. The definitive maintenance of the building with wider laboratories and rooms will give this site adequacy to undergraduate training.

3 - SUGGESTIONS

We believe that the building of the new Teaching Hospital and of the structures able to accommodate and modernize the services actually placed in Cartecchio, the indispensable construction of a small and large animals necropsy room, accompanied with the definitive arrangement of Chiareto (completion of the Faculty farm and of hospitalisation stables for large animals) will give the Faculty facilities and equipment sufficient for adequate

undergraduate training. Furthermore, the development established will give to the Faculty a greater appeal not only on the regional territory but also on neighbouring Regions (Rome is about 120 km from Teramo). A last, this will allow to the Faculty to provide better support to local veterinary practitioners: the development of specialist structures inside the University can provide a better back-up to the local profession improving relations with private veterinarians increasing the number of referral cases and giving the Faculty an integrated role in the panorama of structures devoted to animal health.

Technical staff to manage the structures and instruments has surely to be increased and the management and maintenance costs of such structures need to be well planned to assure long time efficiency.



Molinari Building



Cartecchio Building



Chiareto Facility





Computer room (Molinari)



Anatomy group work (Molinari)



Microscopy room (Molinari)



Group work at the semen assessment laboratory (Chiareto)



Small animals diagnostic imaging (Cartecchio)





Small animals surgical theatre (Cartecchio)



Large animals surgical theatre (Cartecchio)



Obstetric and gynaecology clinical work (Chiareto)



Bulls Cowshed (Chiareto)

CAPITOLO 7

ANIMALS AND TEACHING MATERIAL OF ANIMAL ORIGIN

1 - FACTUAL INFORMATION

7.1 - BASIC SUBJECTS

Anatomy of domestic animals (General and Topographic Veterinary Anatomy)

Tracheas with lung, spleen, heart, liver, kidney, eyes, uterus of bovine, swine, horse and ovine species acquired from local slaughterhouses and conserved in walk-in refrigerators at 4 C°;

Histology and embryology of domestic animals

180 histological preparations pertaining to the Anatomy Unit.

Histology and cytology of domestic animals .

180 histological preparations (30 boxes with 60 slides each) representative of all tissues, pertaining to the Anatomy Unit.

Topographic Veterinary Anatomy

Canine corpses from dead subjects or those euthanized in the Faculty, destined for disposal and preserved in 10 tanks containing a Glycerol/alcohol 50% solution.

Ovine heads with central nervous system sectioned at different levels and conserved in walk-in refrigerators at - 20 C°

Elephant, equine, bovine and canine skulls removed from the context of the skeleton and assembled in partial or complete dry preparations belonging to the anatomy Unit; .

Preparations in formalin:

- horse and cow hooves
- eyes and encephala of different species.

Anatomical plastic models dissectible into parts showing anterior, posterior and inferior views:

- Bovine and swine models, removable showing the inner organs
- Genital organs of cow, horse tooth, bovine urogenital system, canine heart, bovine mammary gland, ear and eyes models

DVD "Viscera anatomy of the dog in image"

Video Horse

Physiology

The Faculty's Unit of Physiology make use of the structures of Chiareto, which every year admits a different number of animals or have access to farms the Faculty has established arrangements in the municipality of Teramo

Pathological anatomy

Pathological anatomy teaching material used during anatomy work are mainly

- organs and entrails taken from slaughterhouses for the teaching of pathological anatomy of product production animals
- dogs, cats and other animal corpses that reach the pathological anatomy diagnosis service.

With regard to the number of pathological fresh preparations, reference is made to quantities on an annual average basis. (see tables below)

2007	Liver	Lung	Heart	Spleen	Foetus	Placenta	Uterus	Ovary	TOT
Cattle	4	3	3	-	-	-	-	-	10
Equines	1	1	1	-	-	-	-	-	3
Small ruminants	75	70	70	3	6	3	13	1	241
Pigs	101	101	101	-	-	-	-	-	303

2006	Liver	Lung	Heart	Foetus	Placenta	Uterus	Ovary	Kidney	TOT
Cattle	14	14	14	-	-	-	-	4	46
Equines	-	-	-	-	-	-	-	-	-
Small ruminants	110	109	110	4	4	1	1	-	339
Pigs	194	193	194	1	-	-	-	10	592

2005	Liver	Lung	Heart	Spleen	Kidney	Oesophagus	TOT
Cattle	20	22	21	-	-	1	64
Equines	2	2	2	1	1	-	8
Small ruminants	44	48	42	-	-	-	134
Pigs	61	62	60	-	-	-	183
Rabbit	1	-	-	-	-	-	1

Such organs are acquired from local slaughterhouses and conserved in walk-in refrigerators at 4 C° or refrigerator at - 20 C°;

Canine and feline corpses from dead subjects or those euthanized in the Faculty, destined for disposal or diagnostic purposes, and preserved in refrigerator at - 20 C° or in refrigerators at 4 C°;

Adequate data retrieval system and data base of all organs and animals collected by the Pathology unit are available so that students can undertake case studies.

Many histological preparations, representative of all tissues main lesions, pertaining to the general and special Pathological Anatomy Unit are also available.

Videos of the Charles Luis foundation on the bovine, pig and horse main diseases.

Veterinary Microbiology

Molluscs: Mussels (*Mytilus galloprovincialis*) and clams (*Chamelea gallina* and *Ostrea edulis*).

Parasitology

Dry or formalin /alcohol - fixed preparations of different animal species parasites present in some glass show cases of Parasitology Unit.

Pathology				
Table 7.1: Number of necropsies over the past 3 years				
species	Number of necropsies			
	2006	2005	2004	
Farm/large animals;	cattle	/	2	6
	equines	1	6	/
	small ruminants	6	2	1
	pigs	/	1	8
	other farm animals**	/	/	/
small/pets;	dogs	21	16	12
	cats	4	11	1
	other pets	5	10	20

*State the actual year
 **Indicate species

7.2 – ANIMAL PRODUCTION

The faculty has a small Faculty Farm in Chiareto (CH) including stables, cowshed and sheepfold permanently occupied by normal animals, mainly horses, cattle and sheep those are maintained for the practical teaching of veterinary semiotic, animal husbandry, feeding routine, herd hygiene and handling livestock. Herd health and industrial management of farm animals are however taught in several farms agreed for teaching and research purposes (see chapter 5.1). Visits to those regional industrial pig farms, rabbit farms and dairy cows farms are routinely organised.

Species	# of places for normal animals (Faculty Farm - CH)
Cattle	10
Horses / donkeys	14
Sheep / goats	60
Pigs	3

7.3 - FOOD HYGIENE

As stated in chapter 6.6, an internal functional abattoir able and authorised to slaughter is not present inside the Faculty of veterinary medicine. Organs are obtained every week from some slaughterhouses located in the Municipality of Teramo (Nereto - Communal slaughterhouse; Villa Bizzarri, Mosciano, Castel Nuovo Vomano – private slaughterhouses) and L’Aquila or Chieti (Communal slaughterhouses). A properly adequate vehicle (car) (Citroen C15) is available for transportation of organs from the slaughterhouses to the Autopsy room. It is maintained and operated to ensure the safety of students and staff and to prevent the spread of infectious agents.

Students moreover have free access to the different slaughterhouses for the inspection of organs. They communicate their needs to the Food Hygiene and Inspection staff who contacts the Official Veterinarian of the plant for the appointment. Every month organs and different products of animal origin are available for the practical teaching.

7.4 - CONSULTATIONS

Actually the Clinics are open during the year with the exception of 1 week during Christmas and Easter holidays and 2 weeks in august during summer holidays.

The opening time for the admission of animals is from 9.00 AM to 5.00 PM from monday to friday, closed saturday, sunday and holidays. Diagnostic and treatment activities continue from 5.00 PM to 8.00 PM. for hospitalized animals as well as during the weekends and holidays from 8 AM to 8 PM.

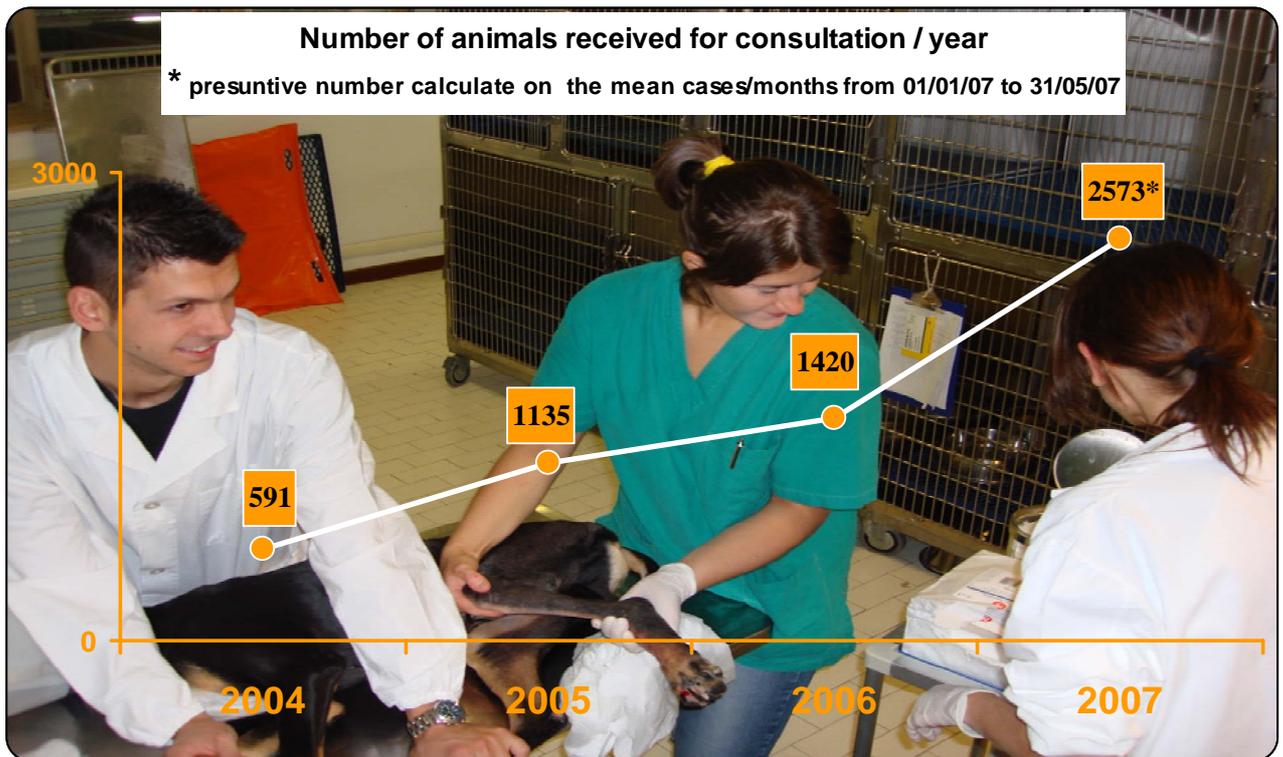
Current EU policy and the animal moving legislation affects and in some cases severely impairs cattle, sheep or other farm animals access to the Large Animal Clinic.

To allow students practicing on farm animals in the year 2000 the University purchased a little farm in Chiareto. The facility, after an appropriate rebuilt, actually houses the large animals Obstetric-Gynaecology Unit of the Department of Veterinary Clinical Sciences as well as the Faculty Farm. In addition, either the Departments of Veterinary Clinical Sciences and that of Food Sciences have agreements for teaching and research purposes, with several farms where small groups of students have, in turn, the possibility to increase their practical knowledge.

Table 7.4: **Number of animals received for consultation in the past three years.**

Species	Number of patients			
	2004	2005	2006	2007 1 st gen-31 st may
Large animals				
Cattle	48	308	344	169
Equines	79	115	196	144
Small Ruminants	1	55	84	16
Pigs	3	3	3	3
Small Animals				
Dogs	388	567	700	644
Cats	68	83	87	81
*Other pets	4	4	6	18

* including ferrets, iguanas, turtles, rabbits, hamsters, genets, chinchillas, snakes, wolves, otters parrots, owlets etc.



7.5 - HOSPITALISATION

Table 7.5: Patients hospitalised in the clinics in the past three years

Species	Number of hospitalisations [°]			
	2004	2005	2006	2007 01.01/31.05.
Large animals				
Cattle	-	18	16	14
Equines	47	58	118	100
Small Ruminants	-	8	13	2
Pigs	-	-	-	-
Small Animals				
Dogs	70	115	192	165
Cats	11	19	21	27
*Other pets	-	-	-	4

[°] day-hospital patients were not included.

7.6 - VEHICLES FOR ANIMAL TRANSPORT

The Faculty of Veterinary Medicine owns a double Ifor Williams Trailers HB505RC to transport healthy or sick animals. The trailer can be towed either by the mobile clinic pick-up (5 seats) or a FIAT Ducato Panorama (9 seats) (see 7.8). The transport service is restricted to emergency cases and the owners are charged for that. It's also used to transport animal from the Obstetric-Gynaecology Unit or the Faculty Farm (CH) to the Large Animal Clinic (CA) and vice versa from the latter ones to the Treadmill installation (CH).

7.7 - EMERGENCY SERVICE

An emergency service is available for small and large animals from 8.00 AM to 8.00 PM Monday-Friday whereas during the closing time it's available on call.

7.8 - MOBILE CLINIC

The Faculty of Veterinary Medicine is equipped with a Toyota pick-up (5 seats) containing all the facilities to perform activities at the farms those have an arrangement with the above-mentioned Departments (see chapter 5.1). For larger number of students, The Vet Faculty owns a FIAT Ducato Panorama (9 seats) or benefits from a minibus (25 seats) of the University.

7.9 - OTHER INFORMATION

The structures and the provided services of the VTH Clinics are of a higher level regarding the quality of service and equipment compared with outside practices of the region in terms of facilities, expertise and responsiveness. The ratio of primary cases (first opinion), and referrals either in small animals and large animals is approximately 5%

The Faculty's policy is to be integrated with local veterinarians, offering them referral services based on the services mentioned above and personal specialisations. These services, working 5days/week include Gastroenterology, Endocrinology, Cardiology and Diagnostic Imaging, Obstetric and Gynaecology, Large Animal Surgery (1 veterinarian eligible for ECVS large animals), Neurology and Neurosurgery (1 veterinarian Dipl. ECVN + 1 ECVN resident), Small Animal Surgery (1 veterinarian Dipl. ECVS Small Animals – 1-2 days/week). Equine surgery and Neurosurgery are available on call for emergencies all year around. Certain reproduction assistance services are authorised by the local regional authority and the

Certification by the University of the Clinical services offered assumes an important legal value.

Fees for clinical services are decided by the members of Department of Veterinary Clinical Sciences and are kept higher compare to the local practices.

For clinical teaching purpose partnerships with the local AUSL, the municipality of Teramo, the local unit of the National Body for Animal Protection (ENPA) and some local kennels have been established.

7.10 - RATIOS

7.10.1 Animals available for clinical work:

Ratio: students/production animals

$$\frac{\text{Number of students Graduated in the last year}}{\text{number of large animals}} = \frac{36}{627} = \frac{1}{17,42}$$

Ratio: students/production animals

$$\frac{\text{Number of students Graduated in the last year}}{\text{number of companion animals}} = \frac{36}{793} = \frac{1}{22,03}$$

7.10.2 Animals available for necropsy:

Ratio: student/post mortem examinations

$$\frac{\text{Number of students Graduated in the last year}}{\text{number of cadavers necropsied}} = \frac{36}{37} = \frac{1}{1,03}$$

2 - COMMENTS

The practical teaching of pathological anatomy is a weak point of our Faculty and it's seriously compromised by the lack of a large animal necropsy room as well as by the lack of dedicated technicians working in the necropsy room. This structural deficits reduce the availability of animals for teaching purposes that must be considered insufficient.

As regards Food Hygiene and Inspection, the establishment lack of structures expressly dedicated (slaughterhouse, cutting plants, ...). In the area surrounding the establishment there are numerous food industries working all the raw materials of animal origin; the strict contact between them and the establishment can in part compensate this lack.

The number of animals available for clinical purpose and teaching are undoubtedly increasing in the last years. This is due to the improvement of the clinical and hospitalisation premises. A 24h emergency service is still lacking at the VTH, the emergency duty is actually supported by voluntary willing on call. In 2006 we asked to a consulting practice manager to evaluate the costs and the organisation necessary to open the clinic 24 hours/day. Common opinion is that to have a full time working hospital is essential to have a better relationship with the veterinarians either of the region and the surrounding regions. Moreover we are conscious that to offer a larger number of speciality references, together with a wider number of College Diplomates working in our VTH would be a great opportunity to improve the quality of the clinical work and teaching.

3 - SUGGESTIONS

The number of animals for pathological anatomy is low for the number of student that attended to the autopsies. More agreements have to be performed to obtain from outside the pathological materials. The construction of necropsy rooms either for small and large animals is mandatory. The elevated student/equipment ratio in pathological anatomy will require the repetition of the same practical application at least 3-4 times.

The new buildings, under construction, will surely improve the logistic of the VTH and will house more premises for the practical work of students. The increased clinical activity will allow student to participate directly in the clinical management of cases. The increase of clinical cases, of specialised references and a 24h emergency service all year around cannot be offered with a consistent increase in the number of qualified structured teaching and technical personnel. To purchase and the set-up of advanced diagnostic imaging equipment,

such as CT scan, MRI, scintigraphy and intraoperative fluoroscopy is one of the priority up-dating of the clinical facilities.

CHAPTER 8 LIBRARY AND LEARNING RESOURCES

1 - FACTUAL INFORMATION

8.1: LIBRARY

Main Library:			
- is this specific to the veterinary training establishment?		Yes	
- is this common to two or more establishment?		No	
State the library's annual operating budget over the past three years: Library does not manage the		expenses in an autonomous way	
Number of full-time employees:		3	
Number of journals received each year (in addition to books):		177	
Number of student reading places:		44 + 12	
Library opening hours		weekdays	
weekends			
	During term-time	10.00-13.30	-
		14.30-19.00*	-
	During vacations	9.00-13.00	-
		14.00-17.00**	-
* from Monday to Friday			
** In the morning from Monday to Friday, in the afternoon only Tuesday and Thursday			

The Library of the Faculty of Veterinary Medicine was established in 1992, a short time after the foundation of the homonymous Faculty in this university in the Abruzzi Region and it is situated at the Biennium of the Faculty located in *Piazza Aldo Moro*.

The *mission* of the library is to support the didactic activities and research performed by the Faculty and to satisfy the information needs of its institutional users.

The Library is currently serving an academic population of approximately 1200 students enrolled in the degree courses of Veterinary Medicine, Animal Care and Welfare, Biotechnologies, Biotechnologies of the reproduction, to the different Postgraduate Courses. The Library, in addition, offers its services to the Academic staff, the Research Staff and the Support Staff and also to the professional world, outside of the Faculty.

The Library of the Faculty of Veterinary Medicine presents a departmental structure oriented towards the biomedical field whose patrimony consists prevalently of periodical magazines as, in the scientific field, the diffusion of the results of research activity prevalently depends on periodical publications which are able to guarantee, because of their nature, more timeliness and quick updating of the information in comparison with the monographs. Furthermore, the diffusion of the magazines is currently performed through the means of data processing that involves optimizing spaces and bibliographic research.

From a managerial point of view, the Library does not manage the expenses in an autonomous way and consequently does not have a specific own budget: in fact, the University provides for the technical and instrumental equipment, while the purchases are directly carried out by the Departments and/or by the Faculties.

The supervision is entrusted to the Dean of the Faculty or to his/her appointed representative and the Library presents three units of personnel with a responsible; other units of personnel are furnished by contract for 150 hours owner students.

Students can consult the Library resources inside the study room of the Biennium (44 reading places) or in the Triennium Study room (12 reading places).

Heritage

It is possible to look up the monographs through paper catalogues (with formal and semantic access) and, for the accessions from the year 2000 onwards, also through an electronic catalogue by logging onto the University website. The periodical magazine catalogue, available in paper format at the library, is also available in the electronic format on the website of the University.

Besides the monographs and the periodical magazines, the Library collects and keeps the degree thesis discussed at the Faculty (more than 200) and the supplementary didactic material (on paper and/or electronic devices) deposited by the permanent professors.

Further bibliographical resources are present inside the Departments with independent organization levels .

At the moment the heritage stored inside the Faculty Library consists of 805 books, mainly didactically oriented and present in several copies, and 177 Italian and foreign periodicals with running subscriptions financed by the Departments where are contained other 1607 books.

Services

The services offered to the users, whose information are available on the website of the University, are:

- search the location: it is open to everybody and it consists of a loan, for a limited time (one day), of the book material to be read at the Faculty branch, with previous registration of personal data (n° 875 satisfied queries during 2006).
- loan at home: addressed to the students and staff of the University, by previous registration of personal data; it consists of a loan for 15 days at most of books classified as non-educational(n° 67 loans carried out during 2006).
- inter-librarian loan: it consists of the management concerning book exchanges among different libraries
- document delivery: supply of scientific publications accessible to both the University itself and other libraries with whom there is a proper agreement; such service, generally free of charge and offered to the students and staff of the University, may be charged if there is no agreement with the external library (n° 588 satisfied queries during 2006).
- bibliographic research: it consists of the autonomous search for bibliographic data using specific key words submitted by the student and/or staff of the University; through this context, these services help participate in the students' education on the methodologies of data research
- distribution of didactic material: it consists of paper and data processing devices; the service provides for the management of the above-mentioned devices

Electronic systems of document research

Virtual newspaper library service:

The University of Teramo is member of the CIBER, Coordination Interuniversity Databases and Publishing Online (Coordinamento Interuniversitario Base dati ed Editoria in Rete), directed towards the acquisition and the online sharing of electronic bibliographic and documental resources. Such University, in fact, is qualified for accessing the Virtual Newspaper Library Service, whose technical management is committed to the CASPUR, Interuniversity Association for Computation Applications for the University and Research (Consorzio Interuniversitario per le Applicazioni di Supercalcolo per l'Università e Ricerca). It regards a Digital Library service for access to electronic, multidisciplinary headings (more

than 3300), published by the main editors in the scientific academic field, whose user interface is the WEB portal, available at the specific address contained on the University website. The access takes place through the automatic identification of the IP address (therefore a procedure of authentication is not needed) from the online network of the Faculty of Veterinary Medicine as well as from the entire University.

The lists by titles and categories of the periodical magazines, included in the virtual newspaper library, are available.

Different systems of research can be used: simple and advanced as well as advanced services of personalized research and remote access.

The research performed on the virtual newspaper library leads to bibliographic metadata; in the case of a signed contract with the editor of the magazine, where the document required by the user is published, the search automatically brings up the “full text” version (in the HTML or PDF format). Currently, the users from the Faculty of Veterinary Medicine (as well as of the entire University) can access the “full text” version of more than 700 titles published by *Elsevier* and *Cell Press* editors, starting from 1995 (on the platform of the virtual newspaper library as well as directly on the editor’s site) and about 40 titles from the collection of the *Advances Social Sciences Book Series*.

InfoLEGES:

The University of Teramo participates in the juridical, open community InfoLEGES project, as a result of the collaboration between the CASPUR and the ITTIG (CNR), under the sponsorship of the MIUR.

All students from the Faculty of Veterinary Medicine, as well as of the entire University, can access the legislative “metamotor” InfoLEGES, from all online network computers through the website of the University; they also have the possibility to search the databases of regional, state and community provisions, including the Official Journals.

8.2: INFORMATION TECHNOLOGY SERVICES

Functional organization of the University Information Service

The information services are organized by the University Information Service.

The present division pursues its activities in the planning, coordination and management of the information and data communication systems, thus joining the scientific, didactic and service structures.

The division is also responsible for the organization and control of communication facilities, regarding in particular the devices for data processing or proceeding and the multimedia utilities (phonic, sound, video, wireless, data) with their specific hardware and software components.

In the last year, the division has increased its activities in order to improve the main didactic services for students, also developing specific collateral services.

The division organizes data information course for the achieving the European Computer Drive License (ECDL) and supports other specific didactic programmes in the different degree courses of the University of Teramo. Moreover, the division represents the test center of the “Associazione Italiana per l’Informatica ed il Calcolo Automatico” (AICA).

Technical organization in the Faculty of Veterinary Medicine

Lecture Halls

The totality of the lecture halls possess the video projector with the relative display screen connected with personal computer used for didactic activities. Several videotapes are also available for their use inside the lecture halls as well as a videotape connected to a TV is present inside the Library of the Department of Veterinary Clinic Sciences.

Information Halls

Two information halls are available, one for biennium and another one for triennium, consisting of sixteen and ten positions, respectively. They are open during the entire course of the day and the entry is free for students under the supervision of specific personnel (contract for 150 hours owner students). The users can enjoy of didactic and research services, including the access to internet. To date, works in progress are improving the service with the aim to provide a personal access for each single student, using the various domains arranged in the university net.

Computers for exams reservation

Four positions for biennium and two for triennium are available for students to access to the services of the university web site (<http://www.unite.it/>), permitting not only the online exams reservation and the printing of the receipt, but also the consultation of plan and timetable of

the courses with their relative advices. A personal e-mail address has also been assigned to each user, including students and university employees, and many other services are in progress.

Connecting services

All rooms possess connecting points that on request permit the access to the University net in order to use the relative services with the possibility to join internet. Actually, works in progress have the aim to create different wireless access point, thus extending the connecting services “beyond the walls”.

2 - COMMENTS

Inside the Teramo University, the Libraries does not constitute spending centres and, consequently, not coordinated conditions with the Departments could happen; the Departments constitute spending centres oriented to the research activities and detain specialized book resources not centrally organized.

Starting from this situation some difficulties arise mainly represented by the absence of centralized data and purchases, difficulties in the full knowledge of heritage consistence at the different Departments and lack of a balanced equipment in didactically oriented books.

However, these limits appear enough compensated by the virtual resources, financed by the Departments and available to the students.

Finally, at the moment the reorganization of the Library is a work in progress both regarding the personnel and the data organization and it is considered that the normal cyclic inventory will be conducted in a short time.

3 - SUGGESTIONS

The heritage as well as the purchases centralization should represent the main solution to the problems of the Library allowing a better organization the bibliographic resources and providing more and specific investments oriented to increase the heritage, the personnel and the available technical means.

CHAPTER 9 ADMISSION AND ENROLMENT

1 - FACTUAL INFORMATION

9.1. STUDENT NUMBERS

TABLE 9.1.1: Undergraduate student composition

a.	Total number of undergraduate students	718
b.	Male students	263
c.	Female students	455
d.	Nationals	685
e.	Foreign students	33
	- from EU countries	29
	- from non-EU countries	4
f.*	1 st year student	91
g.	2 nd year students	89
h.	3 rd year students	73
i.	4 th year students	128
j.	5 th year students	106
k.**	6 th or subsequent year students	231
l.***	Intermediate off-course students	45

* The students indicated at the f., g., h., i. and j. points includes also the students repeating the year.

** These students have satisfied all obligations linked to the attendance of theoretical and practical teaching sessions and are not normally present in the Faculty unless they come to sit the exams that they have yet to pass.

*** These students, not normally present in the Faculty unless they come to sit the exams that they have yet to pass, are characterized by a strong indebtedness in terms of exams and wait the following year to take the university entrance examination. During this time, they may sustain oral exams without compulsory attendance to the course.

TABLE 9.1.2: Postgraduate student composition

n.	Total number of postgraduate students	203
o.	Male students	86
p.	Female students	117
q.	Nationals	203
r.	Foreign students	1
	- from EU countries	1
	- from non-EU countries	0
s.	1 st year students	107
t.	2 nd year students	24
u.	3 rd year students	23
v.	4 th or subsequent year students	0
w.	PhD 1 st year students	12
x.	PhD 2 nd year students	20
y.	PhD 3 rd year students	17

Total number of students in the establishment (a + n) = **921**

9.2. STUDENT ADMISSION

The minimum admission requirement for Italian University students is the Five Year Upper Secondary Education Certificate and the minimum admission requisite for foreign students is an equivalent certificate to that required of Italian students and the evaluation of the equivalence is performed by the competent Consular and Academic Authorities on the basis of existing bilateral and multilateral conventions.

Generally speaking, any five-year Upper Secondary Education Certificate entitles the holder to admission to any undergraduate course of his/her choice: consequentially the scientific preparation and knowledge of the students applying to Italian University is extremely heterogeneous.

Since the academic year 1989/90, admission to the Faculty is granted on a restricted number basis (i.e., *numerus clauses*) and since academic year 1997/1998 the fixed number of students that can be enrolled for the first year is equal to:

- 90 places for Italian or EU citizens and foreign students with equivalent qualifications
- 5 places for non-EU students resident abroad

The university entrance examination consists in answering multiple-choice questions and students must answer 80 questions in 120 minutes.

The questions refer, in the academic year 2006/2007, to notions of the following subjects:

- Logic and general knowledge (33 questions)
- Biology (21 questions)
- Chemistry (13 questions)
- Physics and mathematics (13 questions)

The university entrance examination is conducted in the same way and simultaneously in all the Italian Faculties of Veterinary Medicine.

Students from the same undergraduate course at other universities may also be accepted. The places available are fixed each year on the basis of the number of places left free after the university entrance examination and the irreversible refusal of course placement or the transfer to other courses, or Institutions: For the academic year 2005/2006 this number of places was equal to 5 for each of the five-year courses.

TABLE 9.2: Intake of veterinary students

Year	Number applying for admission	Number admitted "standard intake"
2006-2007	242	90
2005-2006	256	90
2004-2005	222	90
2003-2004	190	90
2002-2003	130	90
2001-2002	125	90
2000-2001	139	90
1999-2000	133	90
1998-1999	170	90
1997-1998	186	90

The number of students applying is higher (with a 18% rough average) than the number that actually sits the university entrance examination; a certain number of applicants also pre-enrol with other Faculties of Veterinary Medicine or other health-related faculties and decide where to sit the exam at the last minute.

9.3. STUDENT FLOW

TABLE 9.3.1. Student flow

Of the students whose admission year was 2000-2001 how many are currently (five years later) in the:

b.	1 st year	0
c.	2 nd year	0
d.	3 rd year	0
e.	4 th year	5
	Repeating 4 th year	25
f.	5 th year	44
	Intermediate off-course	6
g.	How many have graduated	0
h.	How many have dropped out or been asked to leave	10
i.	How many are not in any identifiable year	0

TABLE 9.3.2.: Number of students graduating annually (from undergraduate training) over the past six years

	Year	Number graduating
j.	2005-2006	36
	2004-2005	33
	2003-2004	38
	2002-2003	60
	2001-2002	70
	2000-2001	38

TABLE 9.3.3.: Average duration of studies

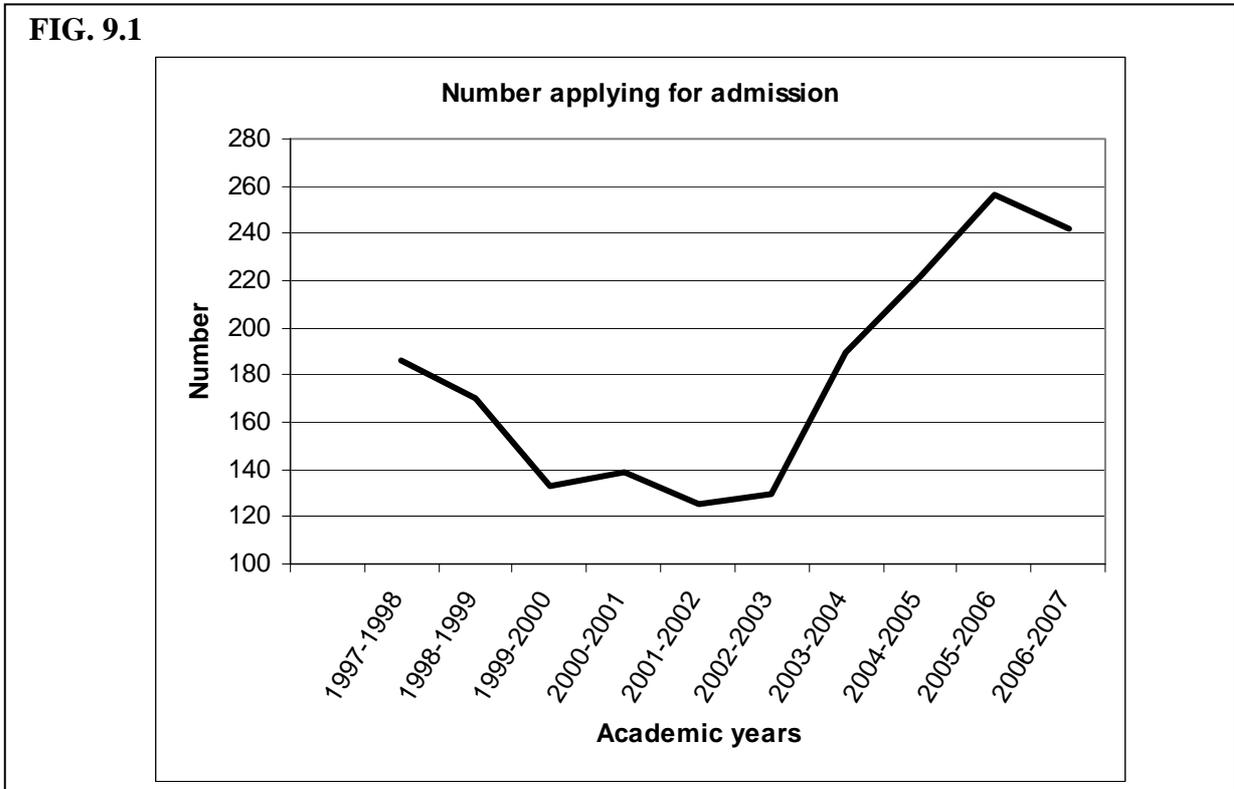
	Duration of attendance	Academic year					
		2005-2006	2004-2005	2003-2004	2002-2003	2001-2002	2000-2001
		number	number	number	number	number	number
k.	4 years	0	0	0	1	2	0
l.	5 years	1	3	3	8	5	2
m.	6 years	1	4	8	9	6	14
n.	7 years	4	10	4	9	15	4
o.	8 years	9	3	4	12	13	9
p.	9 years	4	5	3	10	14	4
q.	10-13 years	12	8	16	10	15	5
r.	more than 13 years	5	0	0	1	0	0
Average duration of studies		9,7	8,1	8,5	8	8	7,4

The progressing for the students from the 4th year to the 5th year, since the academic year 1998-1999, is limited to the students that pass all the exams of the first two years and two exams of the successive three years, including Pathologic Anatomy.

2 - COMMENTS

A first critical stage deriving from the given data lies in the number of students enrolled after the fifth year of regular course schedules, thus appearing that the average duration of studies is particularly long. The Italian legislation, which allows students to remain enrolled even for 8 consecutive years without sitting examinations, is not of any great help in finding a swift

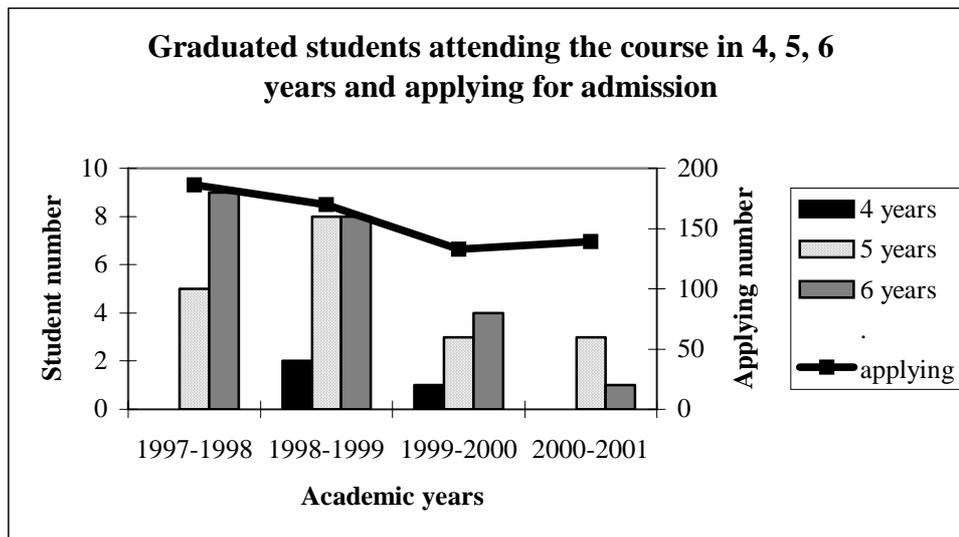
solution to the problem. Furthermore, the low number of applicants to the Faculty entrance examination which, in the academic years from 1999-2000 to 2002-2003, was considerably low (Fig. 9.1) probably allowed enrolment of not particularly qualified students.



In recent years, recovery courses for students needing for an help to progress their studies have been planned. Furthermore, due to an explanatory campaign regarding the characteristics of the Faculty, especially addressed to the metropolitan area of Rome, the number of students applying for the admission to the Faculty has approximately doubled in the last three years.

Table 9.3.3 and Figure 9.2 point out that the selection performed during the university entrance examination show best its effectiveness with the presence of a large number of applicants.

FIG. 9.2



As a consequence, the Faculty currently has some difficulties in carrying out its didactic objectives mainly towards students enrolled between 1999-2003.

In order to counteract the elevated number of intermediate off-course students, particularly those enrolled in the 2001-2002 academic year, the Faculty has decided to set up a “personalized tutorship”, thus allowing students enrolled in their 3rd or 4th year who choose to adhere to such a system, to attend just part of the courses: by following a personalized course of study, suitably designed with a tutor’s aid for each student, in order to recover debit of credits.

Students intending to make use of this opportunity must comply with both the Dean’s Office and their individual tutor, enrolling as a student repeating a year and continuing with the course set up together with the tutor.

The students’ sense of responsibility is enhanced by following such a system, thus minimizing problems that derive from a restricted number of test applications highlighted in the past years and optimizing overall students’ performance.

The number of students enrolled in post-degree courses is satisfying and witnesses the increasing attention of the Faculty for different aspects of post-graduating education.

3 - SUGGESTIONS

One of the main problems our Faculty is currently facing is the low performance of students selected in the past, which has resulted in a group of individuals with low motivation for studying. The measures taken to solve this problem have been mainly based on the attempt to widen the requests of enrolment to our Degree Course and, at the same time, on the reduction of the number of hours in the 1st year courses together with personalized curricula through the above mentioned personalized tutorship.

The results have provided positive data whose effects will fully come into being when the number of students enrolled between 1999-2003 will begin to run out.

As regards to the academic staff's commitment however, a kind of system will be needed where the quality of the academic staff and the quality required by students can turn out to be a broadly shared value.

Aside from boosting didactic optimization through the use of specific economic resources – for example, improving the method of data acquisition on exams in order to implement existing databases – it could also be useful to create a system giving more or less incentives to the students through different tuition fees or specific study “agreements”.

CHAPTER 10

ACADEMIC AND SUPPORT STAFF¹

1 - FACTUAL INFORMATION

The Faculty is now involved in four Degree Courses:

- Veterinary Medicine
- Animal Care and Welfare
- Biotechnologies
- Biotechnologies of the reproduction

In June 2006 the Veterinary Medicine Faculty was thus structured:

Academic staff (Faculty of Veterinary Medicine)

- 13 Full professor
- 16 Associate professor
- 29 Researchers

In June 2006 the members of the Veterinary Medicine Faculty Academic staff involved in the teaching activity of the Degree Course in Veterinary Medicine were thus structured:

Academic staff (Degree course of Veterinary Medicine)

- 13 Full professor
- 14 Associate professor
- 19 Researchers

¹Definitions for this chapter

Teaching staff: represented primarily by full professor and associate professors of the Degree Course in Veterinary Medicine. As the total teaching load exceeds the maximum teaching load admissible for professors, this category may be extended to researchers of the Faculty and, if necessary, other figures not included as budgeted posts, such as contract/supply professors coming outside the Faculty, holders of teaching appointments and even post-graduate PhD students and temporary research fellowship or contract holders. These last three figures, included only when related to Professors of the Degree Course in Veterinary Medicine, are only considered teaching staff for the hours of practical work, which amounts to approximately 7.5% of their activities. The contract/supply professors were calculated as non-budgeted post at 10% FTE each contract. In this chapter, personnel statistics will only contemplate full professors and associate professors as 1 FTE each and researchers as 0.5 FTE each, whereas a remaining equivalent of 4.6 FTE is obtained by the use of the “others” category.

Research staff: this category represents all the figures contemplated in the academic staff's budgeted posts (full professors, associate professors and researchers) and non-budgeted posts represented by post graduate students such as post-graduate PhD students, temporary research fellowship holders, contract workers and scholarship workers. In this chapter, statistics will refer to researchers alone considered as 0.5 FTE each.

Others: the category "others" is represented by the post-graduate PhD students, by the fellowship holders and by the different kind of the research contract holders (total = 62). This category, involved in the practical and supervised teaching activities, was considered only as non-budgeted post at 7.5% FTE.

Support staff: this group includes administrative and technical personnel assigned to the Faculty and to the Departments and primarily includes budgeted posts and to a lesser extent (for technical staff only), non-budgeted posts. The personnel related to the Food Science Department was limited to 6 units (2 administrative and 4 technicians) because statistics is referred only to the figures directly related to Professors of the Degree Course in Veterinary Medicine.

Budgeted posts: those with open-end contracts, for which the University receives a subsidy from the MiUR (Ministry of the University and Research).

Non-budgeted-posts: closed end-contract personnel (technical staff) or those limited to the satisfying of teaching and related learning activities and paid with funds from the University.

Full-time equivalents (FTE): the reference parameters is full-time employment (100% = 1 FTE) for one component of academic or support staff. In the event of part time employment (percentage reduction of the employment regime), the corresponding FTE undergoes a reduction proportionate to 100 (for example, for employment at 80%. FTE = 0.8). There are not part time people inside the academic staff while in the support staff 1 employees is part-time (1 at 80%). However, in addition there are 23 students paid by the University for an amount of 150 hours each: these last are not accounted in the calculation of ratios.

TABLE 10.1 Personnel in the establishment

	Budgeted Posts (FTE)	Non-budgeted Posts (FTE)	Total
1. Academic staff			
a) Teaching staff	27	1.4	28.4
b) Research staff	9.5		9.5
c) Others*		4.6	4.6
d) Total academic staff	36.5	6	42.5
2. Support staff			
e) responsible for the care and treatment of animals		4	4
f) responsible for the preparation of practical and clinical teaching	4		4
g) responsible for administration, general services, maintenance, etc.	19.8		19.8
h) engaged in research work	20	3	23
i) others			
j) total support staff	43.8	7	50.8
3. Total staff (d + j)	80.3	13	93.3

The primary tasks of full professor and associate professors is teaching and research. Researchers are primarily involved in research activities and, when teaching tasks are required, the teaching load is usually half of that of professors.

The above mentioned figures all occupy budgeted posts, whereas contract/supply professors and teachers, coming from outside the Faculty, are paid by the University on the basis of the teaching load.

The teaching guidelines established by the University of Teramo have set the suggested teaching load supplied by professors (full and associate) and researchers at 12 and 4 UTC per year, respectively. The Veterinary Faculty adopted a recommended teaching load of 120 and 60 hours per year for professors and researchers, respectively.

Furthermore, to fully satisfy the teaching necessity of the Courses, the Faculty can confer appointments by valuables or free entrustments.

For this purpose, in the considered year, the non-budgeted teaching staff consisted of 13 teachers coming outside the University of Teramo as well as 1 English language Professor operating inside the Teramo University.

To sustain the costs of the valuable appointments directed to teachers of the University as well as those coming out of the University, the Faculty spend 85,408 Euro for the Academic Year 2004-2005, 81,922 for the Academic Year 2005-2006 and 50,800 Euro for the academic Year 2006-2007.

For the present Academic year (2007-2008), the Faculty received from the University 38,100 Euro to spend for the supply or contract teachers and to assign adopting proportional rules linked to the residence of teachers (if inside the Region or outside).

Support staff

43 figures of whom:

- 19 employed as administration staff
- 31 employed as technical staff

The support staff mentioned above are to be mainly considered as budgeted posts. In addition, there are 4 units of non budgeted-posts, representing technical staff under contract, paid by the University and operating in the Department of Veterinary Clinical Sciences for the care and maintenance of the animals, while other 3 units are involved in research work inside the

Department of Comparative Biomedical Sciences (2 units) and the Department of Food Sciences (1 unit).

Technical staff may be employed, when specifically necessary, on the basis of special requirements, in teaching activities inherent to planning and realisation of, above all, practical activities.

TABLE 10.2 Allocation of personnel to the various Department

Name of Dept.	Academic staff			Support staff		
	Full Prof.	Assoc. Prof.	Researchers	Technical/animal		Admin./general
				Teaching	Research	
Comparative Biomedical Sciences	7	5	14		14	2
Veterinary Clinical Sciences	4	6	7	4	2	2
Food Sciences	2	3	8		4	2

In addition to the structures shown in Table 10.2, indicating only budgeted posts, personnel belonging to the following structures are also an integral part of the Faculty staff:

- Dean's office: 5 units of administrative staff (one at 80% part-time) and 1 unit of technical staff
- Faculty: 5 units of personnel assigned to the porter's lodges of the two teaching buildings.
- Library: 3 units of personnel

TABLE 10.3 Personnel responsible for undergraduate teaching

A.	Number of budgeted teaching staff involved in undergraduate teaching*	27
B.	Number of research staff involved in undergraduate teaching**	14.1
C.	Total number of personnel responsible for undergraduate teaching (A + B)	41.1

* this number includes only the full and associate professors both considered at 100% employment, therefore at 1 FTE each.

** this number refers to the researchers and, as mentioned at the start of the chapter, 4.6 FTE corresponding to the employment of 40 post-graduate PhD students and 22 temporary research fellowship or contract holders for 15% of their time in practical teaching activities.

In Table 10.3, each researcher has been counted as 0,5 FTE corresponding to the half value of teaching load of full and associate professors.

However, it should be pointed out that the teaching load mentioned above represents only a part of the teaching commitment to which we can add the activities related to the examinations and participation in other collegial activities for teaching ends, etc.

The legislation in force governing the new dispositions about the professors and researchers (Law 230/2005) envisages a minimum commitment of 120 hours of teaching for full and associate professors and total global activities not lower than 350 hours per year (including time spent for examinations, participation to Councils, etc.).

Ratios

For the calculation of the teaching staff/undergraduate students ratio, it should be pointed out that, as mentioned elsewhere, the total number of students enrolled can be divided into two categories: students on-course and students off-course.

The former category are those students enrolled in one of the five years of the training program; the latter have not completed the training program in the five-year period or wait the following year to take the admission and are not normally present in the Faculty unless they come to sit the exams that they have to pass.

The total number of students at 30 June 2006, considering both on- and off-course, was 718, whereas the number of students on-course at the same date was 487.

Thus for this reason, the calculation can be performed considering only those on-course alone.

Ratio: teaching staff/undergraduate students (on course)

$$\frac{\text{Number of teaching staff}}{\text{Number of undergraduate students}} = \frac{41.1}{487} = \frac{1}{11.84}$$

We believe that it is more correct to consider the ratio between teaching staff/undergraduate students referring to on-course students only (1:11.84).

This is because, as mentioned elsewhere, the so-called off-course students use at low level the total teaching offered each year, and only sit exams; the information referring to all students enrolled is therefore inappropriate.

Ratio: teaching staff/support staff

$$\frac{\text{Number of teaching staff}}{\text{Number of support staff}} = \frac{41.1}{50.8} = \frac{1}{1.23}$$

For the calculation of the teaching staff/support staff ratio we consider the number of teaching staff for the reasons described above and the whole number of support staff (budgeted and non-budgeted posts) because they appear as roles that, generally, the University is inclined to maintain.

The method of allocation of new posts differs for academic staff and support staff.

At present, a new law has been promulgated (Law 230/2005) regarding the rules of enrolment of teaching staff in the Universities, but the relative application legislative decrees are still in discussion and, consequently, there are some difficulties in describing the exact mechanisms of enrolment of the Academic posts.

Generally, for the Academic positions, the present political approach of the government is tending to stop the funding of new professor posts while new posts for researchers should be developed.

However, when a budget can be available, the Faculties identify the criteria for using the budget allocated for the competitive examinations for professor (full or associate) and researcher posts, as well as the scientific sectors to which said posts are assigned.

It should be pointed out that there are no official or formalised assessment systems for analysing the need for the development of academic staff,

The Faculty uses primarily, but not solely, the teaching load of each scientific sector to draw up development plans.

Support staff is allocated on the basis of the documented needs forwarded to the University by the Departments or other structures (Dean's office, Library, etc.).

The University places calls for the competitive examinations on the basis of the qualifications of the support staff required; the winners of the competitive examinations are then allocated to the structures.

Full time teaching staff (at the moment, inside the Teramo Faculty there are not part-time professors or researchers) are forbidden from performing any other professional activity including external consultations and any form of private work is prohibited unless special authorisations asked to the Rector.

Services to third parties, which are included in clinic and diagnostic work, are only allowed subject to a previous contract or agreement drawn up with the University and regulated by a specific internal regulation.

For participation in scientific conferences, academic staff are given special allowances as contributions to travel and board expenses according to the role.

These funds generally derive from the research finances and the permission to use such funds is granted by the Department Head and the holder of the research funds from which they are deducted.

Study periods of limited duration are permitted without any variation to salaries and in the case of longer periods (sabbatical year) the interested party receives a regular salary.

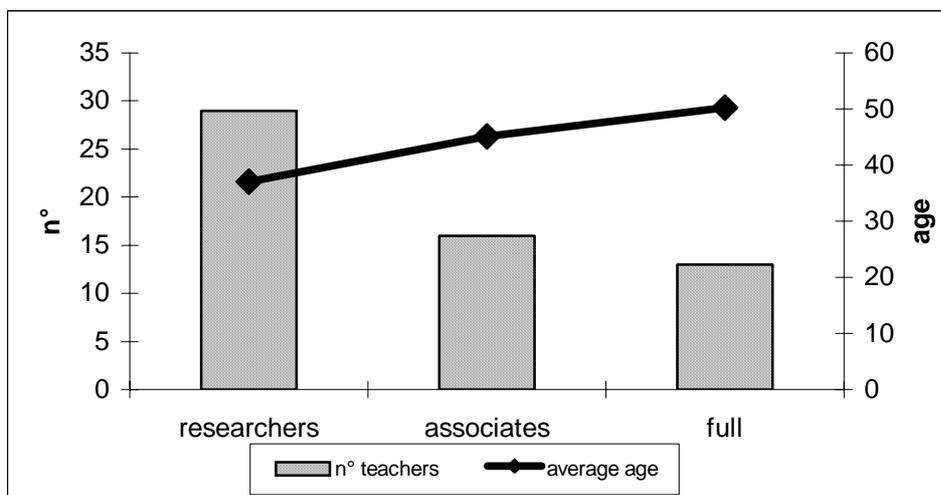
Sabbatical year allocation is approved by the Faculty Council, to whom the interested party must forward an application.

2 - COMMENTS

Hopefully, the teaching staff/student should increase, mainly because of the increase in the overall number of personnel belonging to the various categories. Despite the teaching staff/support staff ratio is within the satisfactory interval, as it's shown in table 10.1 the number of personnel dedicated to the care and treatment of animals and these for the preparation of practical and clinical teaching is much lower compared to the personnel responsible for administration, general services, maintenance, etc. as well as these engaged in research work. In addition it should be advisable to reduce the number of students enrolled, but this would reduce the Faculty income from students fees. On the other hand, the gradual reduction in off-course students, correlated to the efforts made by the Faculty with the tutoring actions carried out in the recent years, should further make the above ratios more satisfactory.

Moreover, the relatively young age of the teaching staff (Fig. 10.1) and its associated enthusiasm and cooperation in new didactic activities assure the accomplishment of didactic objectives.

FIG. 10.1: Number and age of the teaching staff of the Faculty



Connected to the teacher staff of the Degree Course there are 40 postgraduate PhD students and 22 temporary research fellowship or contract holders with a Full professor/PhD students ratio of 1/3.7 assuring not only a strong operative side of the research, but also a firm starting point to possible future enrolment.

Furthermore, it should be pointed out the salaries paid to academic and support staff and PhD students are certainly not high and this is especially true for PhD students and researchers. It should be pointed out that the commitment required of full-time teaching staff (full and associate professors) is only 350 hours/year. Where this limit strictly observed, salary levels would be more than adequate, however, in actual fact, the teaching staff is involved in a far numbers of hours/year.

Moreover, staff recruitment is not easy because of the cuts to finances and personnel are often allocated by the University some time after the request put forward by the various structures.

All teaching staff are graduates, most of whom have degrees in Veterinary Medicine, although a limited number have degrees in Medicine and Surgery, Biology, Agriculture Science and Physics Science; we believe that the percentage of veterinarians (about the 90% of the components of the Degree Course in Veterinary Medicine) is satisfactory.

The presence of teachers with other qualifications is essential for the quality of teaching of some specific disciplines (biochemistry, physics and animal production, etc.).

3 - SUGGESTIONS

As mentioned above the teaching staff/student ratio is unsatisfactory and the main reason for this situation is correlated to the political approach of the National Government. Regarding the teaching staff/support staff ratio dedicated to the care and treatment of animals and these for the preparation either of practical, clinical teaching and the necropsy room has to be significantly improved.

For a number of years to now, for reasons mainly connected to the national economic policy that discourages the taking on of employees in the public sector, it is difficult to obtain new posts and the possibility of self-financing posts with internal resources from revenue generated by clinical or diagnostic work can not be easily accomplished.

Other possibilities to financing new posts could be represented by the participation of the local government (mainly the Abruzzo Region) and, in this sense, new attentions from the local Institutions are appreciable.

We believe for the future the development of the new University National legislation as well as promising links with the Local Institutions could represent suitable opportunity for the Faculty progress.

CHAPTER 11

CONTINUING EDUCATION

1 - FACTUAL INFORMATIONS

11.1 CONTINUING EDUCATION COURSES HELD AT THE ESTABLISHMENT

TABLE 11.1.1 Courses organised by the establishment itself in the last year (2006)

Title of course	Number of participants	Total number of hours of the course
Seminars held by Dr. Pawel Borowiicz	83	4
Can mussels be stressed? An integrated approach for the study of 70kDa heat shock proteins (HSP70) in mussels (<i>Mytilus galloprovincialis</i>)	88	4
Assessment and improvement of safety of traditional dry sausages from producers to consumers (Prog. UE N° QLRT 2001-02240)	120	8
An integrated sanitary management of aquarium ecosystem	139	7
The integrated biological battle against flies	80	8
Placental angiogenesis in sheep	65	2
Practice management in veterinary medicine	52	4
Andrology and clinical andrology in dog	130	6
Management and control of ticks and tick-transmitted pathologies in dog	120	4
Diagnosis of infective and parasitic diseases in the dog and cat: the progresses of the scientific research at the service of veterinarians	200	8
Celebration for the ten years of the School of Specialisation in "Inspection of food of animal origin": "The evolution of veterinary controls to ensure food safety"	120	4
Celebration for the ten years of the School of Specialisation in "Inspection of food of animal origin": "The role of the Veterinarian in the food chain of fishery products according to the new EC rules"	120	4
An integrated diagnostic and therapeutic approach to the most important adrenal glands diseases in pets	136	7
Our shepherds	100	8
The analogous dimension in man and its role in the coming back from discomfort. Principles of psychomotility and experiences of therapy with horses	35	3
Principles of management of working dogs	44	4
Working dogs and assisted therapies selection, preparation, training and sanitary control.	44	4
The new pets: ferrets and small rodents	120	4
Management and most commons diseases of rabbits	136	8
Alley dogs: social, legislative and sanitary aspects	120	6
Management and most commons diseases of reptiles and invertebrates	160	8
Phylogenesis and onthogenesis of the behaviour of horses and donkeys. Principles of management for therapy with horses and donkeys	76	8
Introduction to the veterinary acupuncture in reproduction and surgery	120	13
New approaches to infectious diseases of dogs	120	8
Physiopathological aspects of intestinal diseases. Immunopathological mechanisms of intestinal lesions	100	2
Master in Veterinary Dermatology: Workshop in feline dermatology (Dr. Ordeix)	90	4

TABLE 11.1.2 Courses organised by the establishment itself in the preceding year (2005)

Title of course	Number of partecipans	Total number of hours of the course
Emerging pathogens and foodborne disease (Prof. Buncic)	80	8
Mechanisms of sex determination in avian species	45	2
Medicine and welfare of reptiles and amphibians in nature and in captivity	120	8
Pestivirus, reality and expectations	120	4
The Italian "mosquito tiger" celebrate the 15th anniversary: what we know and what we should know	120	8
Equine orthopaedic emergencies	40	8
Swine diseases	80	15
37° National Congress of the Italian Bovine Veterinary Society	200	24
Nutrition and development of foetus and placenta in small ruminants	65	2
Veterinary cytopathology	50	4
Innovation in ruminants feeding ration systems	30	40
Urine Incontinence in the bitch	143	6
Horse parasitic and infectious diseases between scientific research and clinical practice	200	8
Seawater fishing and farming: a sea of resources	64	6
Reproductive technology and strategies for the selection of milking cattle	100	2.30
Protocols for the sanitary management of a wild animals recovery centre	59	2
Migratory and not migratory wild fauna in central part of Appennino	55	4
Sanitary management of naturalistic areas: veterinary and legislative aspects	52	10
Methods for the census of wild populations	41	10
Dynamic demographic and control of boars (<i>Sus scrofa</i>) in the natural environment	52	4
Ecology, conservation and monitoring of Palaearctic avian species	28	5
Autoctonous animal biodiversity as resource in environments at low agricultural attitude	33	4
Selection and management of the stallion in reproduction	400	16
The preservation of wild carnivores: status, ecology, and management problems	44	10
The intelligence in animals	67	1
Senses and cognitive capacity in dogs	67	1
Learning, training and behaviour problems in service dogs	67	1
Presentation of the activities of the service dogs schools (Italian School of dogs for water rescue, National school of dogs as blind-helper, kennel section of Carabinieri)	67	2
Residue risk: POPs in fishery products	80	4
Urology in dogs and cats	90	14
Ultrastructural diagnostic criteria	65	12
The role of the ultrastructures in reproductive biotechnologies (sperm's ultrastructural physiopathology)	50	16
Veterinary Dermatology: Pyoderma in dogs	90	4
Biodiversity: the donkey species	145	9
Pain treatment	70	12
Total intravenous Anaesthesia in dogs and cats	70	8
External fixation in dogs and cats	70	8
The traditional products	10	8
New problems related to the veterinary drug surveillance in relationship to	80	8

the most recent laws		
Prion diseases and neurodegeneration: progresses, perplexities and expectations	400	8
Veterinary Dermatology: Canine Dermatology	90	4
Reproductive biotechnologies: a match among science, ethics, law, politics and communication	120	4

TABLE 11.1.3 Courses organised at the establishment by outside bodies in the last year (2006)

Title of course	Number of participants	Total number of hours of the course
3 rd National Congress “Società Italiana Veterinaria Studio Animali Non Convenzionali”	180	12

The Faculty’s teaching body is always involved in events both organised directly by the Faculty and by outside bodies.

11.2 DISTANCE LEARNING (INCLUDING VIA INTERNET)

At present, distance learning programs are in progress. Teaching materials are available in the Faculty library and directly distributed by teaching body during the lessons. The faculty possesses a complete videoconference equipment, which could represent an useful instrument in holding future distance learning courses.

2 - COMMENTS

In recent years, continuing education has become an important new commitment of the Faculty, due in part to new legislation that requires veterinarians to obtain a certain number of credits each year, according to the legislation regarding the Continuing Education in Medicine (ECM system). The various initiatives organised received positive reactions and good turnouts and were attended primarily by veterinarians. Furthermore, it must be pointed out that most of the continuing education events organized by the Faculty may be attended by students of the last years of the course in Veterinary Medicine as optional credits.

3 - SUGGESTIONS

This commitment will become surely more and more important in updating veterinarians in both public and private sectors. Greater interaction with the public and private organisations that employ veterinarians is therefore called for in order to better co-ordinate initiatives, a process that could profitably also be extended to other European Schools in the future.

CHAPTER 12

POSTGRADUATE EDUCATION

1 - FACTUAL INFORMATION

12.1 POSTGRADUATE CLINICAL TRAINING COURSES (INTERNS AND RESIDENTS)

Table 12.1.1: Postgraduate clinical training courses

Clinical discipline	Duration of training	Number enrolled		Diploma or title anticipated
		Full time	Part time	
Veterinary Neurology	3 years	1	-	Dipl. ECVN
Veterinary Pathology	2 years	2	-	Dipl. ECVF
Veterinary Internal Medicine	1 year	1	-	-
Veterinary Surgery	1 year	4	-	-
Veterinary Obstetrics and Gynaecology	1 year	2	-	-
Food Inspection	1 year	1	-	-
Microbiology	1 year	1	-	-

The students involved in the training of Veterinary Neurology receive a grant. The students involved in the training of Veterinary Pathology receive a salary. In addition, 7 interns are enrolled in the Department of Veterinary Clinical Sciences, 1 student is enrolled in the Department of Food Sciences and 1 student is enrolled in the Department of Comparative Biomedical Sciences. The duration of the training can vary and may last a maximum of 1 year. The individuals involved require insurance coverage and do not receive grant or salary.

12.2 TAUGHT POSTGRADUATE COURSES

Table 12.2.1: Taught postgraduate courses

(a) Diploma level School of Specialisation	Duration of training	Number enrolled	
		Full time	Part time
1. Inspection of Food of Animal Origin	3 years	-	25
2. Animal Health, husbandry and animal products	3 years	-	25
3. Equine medicine and surgery	3 years	-	16
(b) Masters level	Duration of training	Number enrolled	
		Full time	Part time
1. Valorisation and safety of wild and farmed fishery products (2 nd level Master)*	1 year	-	14
2. Management of the local development in parks and natural reserves	1 year	-	30
3. Veterinary dermatology	1 year	-	30

* This master was organised jointly with the Faculties of Veterinary Medicine of Bologna and Parma

The Schools of Specialisation in Animal Health, husbandry and animal products and in Equine medicine and surgery are activated on three-years cycles.

The School of Specialisation in Inspection of Food of Animal Origin is activated on two-years cycles.

The individuals involved in the Schools of Specialisation and Master courses usually do not receive a salary or fellowship.

For both (a) and (b) courses an enrolment fee is charged.

12.3: POSTGRADUATE RESEARCH PROGRAMMES

Table 12.3.1. Postgraduate research training programmes

(a) Masters level	Duration of training	Number enrolled	
		Full time	Part time
(b) PhD level (Doctorate)	Duration of training	Number enrolled	
		Full time	Part time
1. Food Science	3 years	3	-
2. Biotechnology of reproduction	3 years	8	-
3. Advanced epidemiology and comparative pathology	3 years	9	-
4. Veterinary Pathology*	3 years	1	-
5. Veterinary emergency and critical care	3 years	19	-
(c) Other doctoral level Research fellowship	Duration of training	Number enrolled	
		Full time	Part time
Department of Veterinary Clinical sciences	2 years	1	-
Department of Comparative Biomedical Sciences	2 years	5	-
Department of Comparative Biomedical Sciences	1 year	3	-

* This Doctorate was organised jointly with the Faculty of Veterinary Medicine of Bologna

PhD (Doctorate) courses are usually activated every year. Not all the posts assigned are connected to scholarships. Most of scholarships are funded by University; sometime private industries founds scholarships linked to specific research projects.

Research fellowships are contracts between the fellow and a Department; they are usually renewable and are connected to a specific research project.

Contract researchers include all those funded with external or research funds.

The University offers funding for post-doctorate fellowships on specific projects.

All the activities described in table 12.3.1. are opened to graduates only.

2 - COMMENTS

Post-graduate involvement in the above described programs is fundamental above all for the Faculty's research activities. Such figures may also be used for teaching activities, which is formally authorised and acknowledged for doctorate students, PhDs and fellows.

A small percentage of graduates not involved in clinical programs, comes from other faculties (biology, biotechnology); this undoubtedly enriches the external expertise applied to veterinary medicine. The recent shortage of the University funds may jeopardize the continuation of PhD courses. Thus, the Departments are driven to find autonomous funds to

support the above courses, owing to their recognized importance (for example by using revenues form clinical activities).

3 - SUGGESTIONS

Greater efforts are needed in order to offer to graduate students more specialisation opportunities.

According to the new national legislation regarding the Schools of Specialisation of the sanitary area (including those of veterinary medicine), these course must be organized as full time courses, providing to offer a grant to the students employed. This system has already been adopted for the Schools of Specialisation in human medicine but, till now, has not been applied to veterinary Schools of Specialisation, mainly because of lack of funds.

It would also be useful for Masters awards to have a legal acknowledgement with regard to access to public recruitment competitions. This is, at the moment, hampered by the national legislation.

CHAPTER 13

RESEARCH

1 - FACTUAL INFORMATION

Research activities are conducted by the entire teaching body (Full Professors, Associate Professor, Researchers); they are a right/duty of teachers, assisted by support staff and with the contribution of specialising students, doctorate students, temporary researchers and other contract personnel on specific projects. The Departments are the structures of reference for research activities and the connected financial issues; the Director of Department is responsible for administration matters. The individual teachers (Full Professors, Associate Professors and Researchers) are recognised the freedom of research and the status of holders of the respective funding by the University Statute.

The results of research activities are monitored by both the Faculty and the University.

Students have access to research laboratories during the activities related to their theses. Theses may be a review of existing literature on a given subject (dissertations), an analysis of clinical statistics (case reviews) or alternatively they may take the form of an original experiment (experimental). In this latter case, students have access to research laboratories and the necessary equipment. The type and duration of attendance is established by the supervising lecturer, who also oversees the drafting of the final work.

An estimate of the involvement of students in research activities is given by the percentage of experimental theses expressed as a percentage of all graduates, as shown in the following Tables.

Theses in Academic Year 2005-2006

DEPARTMENT	Unit	dissertation	experimental
Comparative Biomedical Sciences	Physiology		2
	Pathol. Anatomy	-	1
	Infectious Diseases.	-	7
Food Science	Animal production	2	10
	Food Hygiene	1	2
Veterinary Clinical Sciences	Int. Med.	-	2
	Surgery	2	4
	Obstetrics	1	2
Total		6 (16.7%)	30 (83.3%)

2 - COMMENTS

Although the establishment guarantees the presence of both teaching areas and research laboratories, students' opportunities for research work are connected to whether or not they choose an experimental thesis. A certain percentage of students does not perform any research work at all during their studies.

3 - SUGGESTIONS

At the moment it would seem unlikely that student involvement in research activities is likely to increase substantially, also and above all, due to the considerable demands on them from a merely academic point of view; in any case, in the future students should be more encouraged to prepare experimental theses. It should, however, be noted that within the Faculty there is high number of graduate students (temporary researchers, scholarship winners and doctorate students) working in the various departments.

