EAEVE
Evaluation Visit

20 - 24 January 2014

Self Evaluation Report 2013

DEGREE COURSE OF VETERINARY MEDICINE
University of Bari "Aldo Moro", Italy

INDEX

FOREWORD

This Self Evaluation Report (SER) has been prepared on the occasion of the visit (scheduled on January 20-24, 2014) by the Experts of the "European Association of Establishments For Veterinary Education" (EAEVE). The Visiting Team is composed by the following experts:

Prof. Petr HORIN (Brno, Czech Republic) *Animal Production* Chairman
Prof. Patricia FERNANDEZ DE TROCONIZ REVUELTA (Lugo, Spain) *Basic Sciences*
Dr. Bertil DOUW (Macroom, Ireland) *Clinical Science*
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Prof. John WILLIAMS (Leeds, UK) EAEVE Coordinator/Rapporteur
Prof. Domenico OTRANTO (Bari, Italy) Internal Liason officer

The SER has been compiled using as a base the Manual of Standard Operating Procedures for the evaluation of Veterinary Training in Europe edited in March 2008 and amended in May 2012 by the EAEVE/FVE.

All data are expressed within the space-time of the solar year, so that some data to complete year 2013 are lacking. The use of acronyms has been limited to the most common use and, if not differently stated, the word "Department" have been used for the Department of Veterinary Medicine, the acronyms DEOT has been used for Veterinary Clinics and Animal Production Section of the Department of Emergencies and Organ Transplantation and the word "Ministry" has been used for the Italian Ministry of Education, University and Research (*Ministero dell'Istruzione, dell'Università e della Ricerca* - MIUR).

The document is the result of the effort of the teaching and support staff of the Veterinary Medicine Degree Course and of the administrative personnel of the University of Bari, that have contributed to the editing of this volume by submitting data which were compiled by the contributors of each single chapter.

The help of Alessandro Papaleo in editing the final layout of the document is gratefully acknowledged.

Final evaluation and revision of the document have been made by the President of the Department of Veterinary Medicine prof. Canio Buonavoglia and by the President of the Degree Course Board prof. Maria Tempesta.

The Self Evaluation Report of the Veterinary Medicine Degree Course of the University of Bari has been approved by the Board of the Department of Veterinary Medicine on November the 20th, 2013.

Valenzano, 21 November 2013

INTRODUCTION

Please provide an outline of the main features of the history of the Faculty in the period since the last evaluation visit or, if there has not been a previous visit, in the last ten (10) years.
It should cover,
- the main organisational changes
- new regulations relating to teaching
- new buildings or major items of equipment
- main changes to the study programme
- important decisions made by the management of the Faculty, or by the authorities responsible for it
- major problems encountered by the Faculty, whether resolved or not

The Veterinary Medicine Course of the University of Bari is one of the 13 Italian Veterinary degree courses that share a common curriculum and recruiting system but remain independent regarding the organization of the studies.
Veterinary education in Bari was previously examined by the EAEVE in 2001. The visiting team made some suggestions that were used as a basis for improvement in the following years, so that the Degree Course was subsequently given full approval in 2004.

Starting from the last visit, the Faculty has experienced a positive period during which it was possible to ameliorate and consolidate its training potential.
New teaching staff was recruited, new lecture rooms for small groups of students were organised, computers and digital projection equipments were installed in all classrooms, the necropsy room was remodelled for practical works on large animals, a canteen service was open, three vehicles for student transportation have been purchased, etc. Moreover, thanks to the efforts of the ex-Faculty and of all the clinician staff, the new build Veterinary Teaching Hospital was equipped with all instruments and tools required to offer a high quality assistance to the patients.

This positive trend underwent a sudden breaking in 2008, when an “austerity” law passed by the Government established major cuts to the State-funded University funding and when two parallel reforms inflicted within the space of few years completely changed the planning of the Degree course and modified the whole structure of the (at that time working) Faculty.

Even though it can't be denied that the progressively increase in the budget constraint during the last years strongly limited the efforts of the teaching staff to further improve the quality of the teaching, the good foundations built in the previous years e allowed to maintain a good standard.
Starting from 2014, no further fund cuts are envisaged and the negative trend that has characterized these last years should turn around. Moreover, even if the possibility of real changes in a short-time improvement of the public funding to the University cannot be surmised, the resources that the Departments involved in the training of the veterinary student can recover can still guarantee the mission of the Degree course.

A strong break to the progressive development process of the Veterinary Medicine Degree course was brought about by the Ministerial Decree n° 270 enacted on 2004 (MD 270) that has initiated a long-lasting process of transformation of the University Degree courses aimed to align the higher education in Italy with the European model (that is detailed in Chapter 4) and by the Law

240/2010 that has radically changed the organizational structure of the Italian Universities transferring all powers to the Departments and disabling the Faculties.

Therefore, this new EAEVE visit has been planned in a very critical moment of the Italian veterinary education.

The whole long-lasting decisional proceeding that has led to construct the new curriculum of the Veterinary Medicine Course of Bari started in 2008, has been developed gradually, one year at time, and has definitely come to the end in the current year. The new curriculum has been designed paying attention to the human, structural and economic potentials of the course and to comply with the objectives of the “Bologna Declaration” and with the European standard required by Directive 2005/36/EC. In particular, 3 main innovative aspects, that are fully detailed in Chapter 4, have been introduced in the New curriculum: 1) the reduction of CFU numbers assigned to the basic and characterizing disciplines, in order to increase the number of hours in practical training; 2) the teaching activity organized in 20 short condensed 6-week periods (4 by year) and 3) the activation of a 5th year, informally named trident, which includes 3 optional tracks in vocational professionalizing disciplines.
The new curriculum is active from 2009 and has been introduced gradually, one year at time, by substituting the old one. Therefore, at present (2013), it hasn't still completed its first 5-year cycle.
Such a transitional phase has caused difficulties in the draw up of a clear account of organisation of the studies and of the training activities performed (mainly for the not yet finished 5th year) and does not still allow to evaluate the effective feed-back of our educational efforts.
Recently, as detailed in Chapter 5, a new Ministerial Decree (MD n° 47 enacted on 2013) has introduced a series of rules finalized to perform the quality monitoring of the Italian University courses. The outcome of this survey will supply the needed information on the efficiency of the veterinary training at the University of Bari.

The further epoch-making change that the governor bodies of the Veterinary Medicine Degree Course have to face up in the last few years derives from the new rules dictated by Law 240/2010, informally named "*Legge Gelmini*", that has radically modified the organizational structure of the Italian Universities.
Although this is not the right place to discuss the strength and weakness of this law, it cannot be concealed that it has produced a destabilization moment in the whole Italian Universities.
The most change suffered by the Veterinary Medicine Courses has been the centralization of the management of all didactic and research affaires to the Departments.
In fact, according to that law, in 2012 the historical Faculties of the Italian University, including the Faculty of Veterinary Medicine, that before the "*Legge Gelmini*" were devoted to the management of all teaching affaires, have turned off and all power has been transferred to the Departments. Before the "*Legge Gelmini*", these Departments were only devoted to the management of the research affaires.
Since the teaching staff remained in charge of the Department befitting to their own research or service-to-client activities, the teaching aggregation centre of the degree course has suddenly failed and a slow re-organization process is now in progress.

In this complex moment of the Italian academic life, all members of the Veterinary Medicine Course of Bari are aware of the upcoming visit and its objectives, and are ready to answer to any questions that may arise. We look forward to benefiting from the expertise of the visiting colleagues from other European veterinary schools and we thanks them for the their engagement in improving the veterinary education in Europe.

1 CHAPTER
Objectives

Written by
Canio Buonavoglia

Contributors
Chiara Belloli

Chapter 1 – OBJECTIVES

1.1. Factual information

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

Due to the recent reassessment of the Italian University framework, the official mission statement documents concerning the objectives of the different high education University centres have extinguished together with the Faculties.
Moreover, the educational objectives of the Veterinary Medicine Course have been recently revised after a long-lasting decisional process, started in 2008 and closed in the current year, which aimed to plan and define the new curriculum of the Degree course.
Therefore, waiting for the approval of the new Teaching Regulation, in which the mission of the Veterinary education at the University of Bari is clearly stated, the overall educational objective of the veterinary training institution of the University of Bari can be inferred by the SUA-CDS form (*Scheda Unica Annuale dei Corsi di Studio* -SUA-CDS), which will be published soon on the website of the University (see Chapter 5 - Teaching: quality and evaluation), and by the Didactic Regulation of the Veterinary Medicine Course, which concurs to constitute the Didactic Regulations of the University of Bari (*Regolamento Didattico di Ateneo* - RAD) (See Chapter 4 - Curriculum).

In brief, the general educational objectives of the veterinary education can be summarized as follow:

- to provide adequate, ethical, research-based veterinary training by offering high-quality education to student of Veterinary Medicine and further professional and scientific post-graduate education as well as continuing education.
- to produce basic and applied research and innovation in the various subjects of the veterinary science
- to provide services to members of the veterinary profession and the community as a whole.

More specific objectives of the undergraduate education are established in accordance with the European Directive 2005/36/UE, the current national legislation (Ministerial Decrees n. 509/1999 and n. 270/2004) and the EAEVE recommendations.
Therefore the curriculum framework has been planned with a view to guarantee to the new graduates all basic, essential competence in all commonly-recognised branches of the veterinary profession that enables them to enter immediately, or after a generally-accepted period of practical experience, on the labor world.
To this aim, the practical activity has been promoted without setting a limit to the theoretical training that has always been the main asset of the Italian University education and that supplies to the graduates the essential cultural back-ground to face up to all work opportunities.
One of the specific objectives of the educational program is to open the student prospective towards horizons that may diverge from the clinical practice.
Indeed, considering that most veterinarians in Europe are engaged in clinical practice, a clinical focus has been maintained in the basic training. However, the private practice is reaching the saturation point and an objective assessment of the veterinary employment should take in greater

consideration other potential job offers for veterinarians, such as food processing industry, feedstuff industry, the National Health Services, the Experimental Zoo-Prophylactic Institutes, pharmaceutical industries, and so on.
Therefore, a special track on Food Safety, Animal Health and Zoonosis has been designed with the aim to give students an opportunity to become familiar with public health aspects of the veterinary profession that are generally outside of the specific/emotional motivations leading to enrol at the Veterinary Medicine Degree (i.e., being a companion animal or horse veterinarian). Such a strategy was adopted following the evaluation of the professional demands for veterinarians in the country. It is well known that food safety and food quality, as well as the control of infectious diseases and zoonoses, have gained an increasing importance. Traditionally, in Italy, these subjects are of strategic importance in the North of the country where farm animals and food-related industries are economically relevant. In the recent years, however, these enterprises have been giving a great development also in Southern regions of the country, so that an increasing demand for experts in this field is expected.
Furthers long-term objectives, not yet established, but aimed to explore innovative teaching methods, is to design courses centred on individual animal species and to exploit territorial potential and expertise. These objectives have been adopted for a long time by several European Veterinary Schools but have been historically ignored by the Italian academia. In particular, it would be interesting to start focusing teaching activity on such an approach adopting a model centred on the so called "minor species" (m.u.m.s) that are important representative of the livestock of Southern Italy.

Who determines the official list of objectives of the Faculty?

The list of the official objectives of the Veterinary Medicine Course comes from the joint work of the three governor bodies of the course: the Degree Course Board, the Committee for Teaching Affaires and the Department of Veterinary Medicine Board, where students are largely represented.

By what procedure is this list revised?

The general and specific objectives listed in the RAD, SUA-CDS and in the now drawing up Teaching Regulation are long-lived objectives and do not envisage revision unless significant changes in the legislation occur, a condition that are not infrequent in Italy.
Short-term educational objectives can undergo some adjustment as a consequence of inputs on low performance of teaching and support service.
The process is managed by the Committee for the Teaching Affaires that plans the necessary action aimed to improve the service quality. The adjustments have to be always consistent with the general objectives and have to be debated with the Degree Course Board and submitted to the Department of Veterinary Medicine Board for approval.

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

A dedicated permanent assessment system for the achievement of the general objectives is not available.
However, information on this subject can be inferred by the two satisfactory surveys to which students are invited to participate during class hours at the end of each course; one survey has been managed till now by the University and another one is managed by the Department.
Starting from 2014, a new system for the evaluation of the teaching quality, which will involve also the teaching staff, will be performed on-line by a dedicate web site.
The Degree Course Board and the Committee for the Teaching Affaires are in charge of continuously monitoring the problems related to the achievement of the objectives.

1.2. Comments

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

Due to the recent revision of the educational objectives of the veterinary training of Bari, it is still too early to appreciate the efficiency of the undertaken initiatives and to make a balance.
We must wait for some more years before drawing the first considerations and evaluations.

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

The modification of the Curriculum of the Degree course, with the diversification of the learning process at the fifth year, represents a clear strength, since students will obtain a more in-depth knowledge about one of the branches characterising the veterinary profession.
In our opinion, one of the main weakness lies on the poor availability of the personnel in charge of the animal management with a negative impact on the optimal working of the Teaching Hospital.

1.3. Suggestions

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

As remarked above, there is still a lack of feedback to advance judgements on the situation.

2 CHAPTER
Organisation

Written by
Giuseppe Crescenzo

Contributors
Marcello Siniscalchi

CHAPTER 2 - ORGANISATION

2.1 FACTUAL INFORMATION

Details of the Department

Name of the Department:	Department of Veterinary Medicine of the University of Bari
Address:	Strada Provinciale per Casamassima km 3, 70010 Valenzano (Bari)
Telephone:	+39 080 5443943
Fax:	+39 080 5443822
Website:	http://www.uniba.it/ricerca/dipartimenti/dipmedveterinaria
E-Mail:	direttore.dimev@pec.uniba.it

Title and Name of the head of the Department of Veterinary Medicine

Director of the Department:	Prof. Canio Buonavoglia
Telephone:	+39 080 5443841
Fax:	+39 080 5443822
E-Mail:	canio.buonavoglia@uniba.it

It is the Department within the university? If so, please give address of the University

University:	University of Bari "Aldo Moro"
Address:	Piazza Umberto I, 1 – 70121 – Bari (Italy)
Web site:	www.uniba.it

Details of the competent authority overseeing the Faculty

The Department of Veterinary Medicine is one of 24 departments that constitute The University of Bari. The University of Bari "Aldo Moro", one of the 58 State universities, was founded in 1925 and is attended today by about 60.000 students, across the Bari, Brindisi, and Taranto campuses. More information is available on the website http://www.uniba.it/english-version.

The University is a public institution under the authority of the Italian Ministry of Education, University and Research (MIUR). The Ministry states the general guidelines for certified degrees and determines the general policy for higher education in Italy, but allows for a certain degree of autonomy in university administration, and in the structure of research, teaching and organization.

Main University governing bodies are the Rector, the Academic Senate and the Board of Governor:

The Rector, who represents the University and ensures the unified approach expressed by the collective bodies of government. This academic role is elected from among full professors, is

appointed by decree of the Minister; remains in charge for six academic years and the mandate is not renewable.

The Rector shall perform the functions of initiative, address and coordination of scientific and educational activities of the University in accordance with the principles established by the laws. The Rector may appoint a Deputy Rector from among the full professors of the University to replace him in case of absence or impediment, and to perform the functions delegated to him and may also delegate specific tasks to other teachers appointed by decree, of whose work remains, however, responsible.

The Rector convenes and chairs the Academic Senate and the Board of Governor.

The Academic Senate, which is in charge of the political government of University of Bari. It coordinates all activities of planning and management; verifies the efficiency of teaching and research, and promotes cooperation with other universities and cultural centers and research institutions, ensures constant connection with the institutions and with the social and productive forces.

The Academic Senate is chaired by the Rector and it is composed of 31 members, including 10 Director of Departments, 12 representatives of the scientific areas that make up the university, 5 student representatives, 1 representative of PhD students, 3 representatives of the technical and administrative staff.

At meetings of the Academic Senate shall participate, without the right to vote:

The Deputy Rector who, in case of absence or impediment of the Rector, presides over him with the right to vote; the General Director, who performs the functions of secretary.

The Board of Governor (Council of Administration), which exercises the functions of strategic planning, management and control of the administrative, financial and economic capitals of the University as well as to the monitoring of financial sustainability of the activities.

It is chaired by the Rector and is composed of 8 members including: 2 members chosen among Italian and foreign personalities do not belong to the roles of the University of Bari with effect from five years prior to their appointment and throughout the term of office; 4 members of the University (one full professor, one associate professor, one permanent researcher and one member of the roles of the technical and administrative staff associates and linguistic experts); 2 student representatives.

At meetings of the Board of Governor shall participate, without the right to vote:

The Deputy Rector of that, in case of absence or impediment of the Rector, presides over it with the right to vote; The President or a member of the Board of Auditors; the General Director, who performs the functions of secretary.

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

The roles elective and representative of the Department are:

a) The Director;

b) The Vice Director

c) The Executive

d) The President of the Degree Course

The Director shall be elected, in accordance with the procedures established by the General University Regulations, from among the full-time Full or Associated Professors of the Department and is appointed by the Rector's Decree. This role is elected by the Department Council, is appointed for three consecutive academic years and may be re-elected only once.

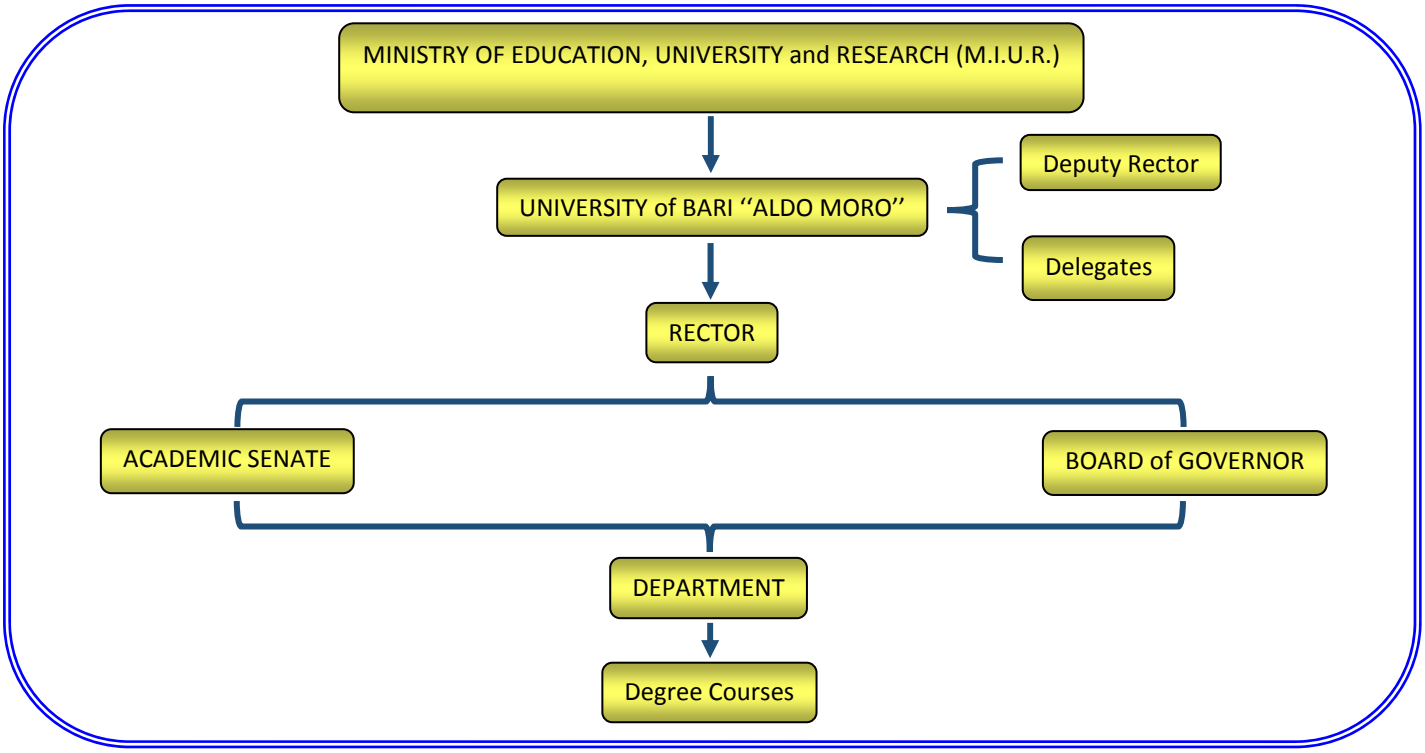
The Vice Director shall be appointed by the Director and he is chosen from among the full-time Full or Associated Professors of the Council. The Vice Director replaces the Director in case of his absence or impediment, and carries out the functions delegated to him.

The Executive is composed of the Director, professors and no more than nine researchers, ensuring the presence of each component in a number not exceeding three teachers and a representative of the technical and administrative staff and linguistic experts. For issues related to teaching and student services participate in the meetings of the Executive representation students, elected from among the representatives of the students in the Department Council. The Executive is appointed for three academic years and its components are re-elected consecutively only once.

The President of the Degree Course must be a full-time Full or Associated Professor. He is elected by the Council of Degree Course and must be willing to hold this position for a three-year term and may be re-elected only once.

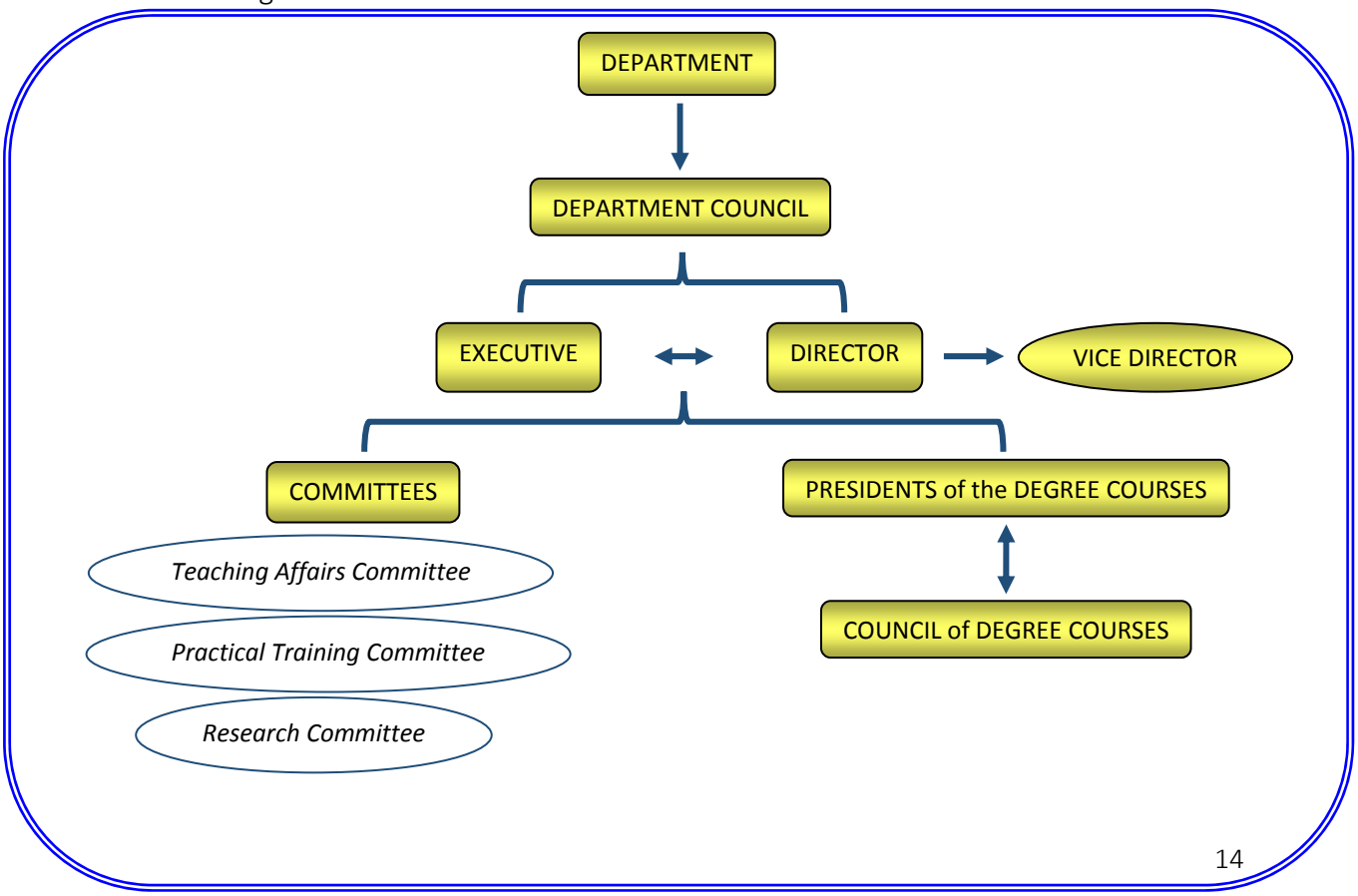
Provide a diagram of the administrative structures showing the Faculty in relation to the university and ministerial structure of which it is part.

Please see Figure 1



Provide a diagram of the internal administrative structure of the Department itself (councils, committees, departments, etc.)

- Please see Figure 2



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

The Department is the structure on which is based the general organization of the University. Departments are attributed to the purpose of performing the functions of scientific research, education and training activities, the outwards-directed activities, as well as the transfer of knowledge and innovation.
The Department promotes and coordinates research activities, without prejudice to the autonomy of each individual teacher and its ability to access funding for research directly, delivered locally, nationally and internationally and organizes and manages the educational activities independently.

Organs of the Department are:

a) The Council;
b) The Director
c) The Executive

The Department Council is composed by all the professors and researchers of the Department; a representative of the technical and administrative staff and linguistic experts not less than four units and no more than 10% of the components Body; a representative of doctoral students; a representative of the students, with respect to matters relating to the organization of the educational activity, accounting for 15% of the components body.

The Department Council is the managing and governing body of the Department. It shall meet at least once every two months in ordinary sessions and every time there is a need to convene.

The main functions of the Department Council are to:

- Elect (or eventual revoke) the Director;
- Organize research activities having direct responsibilities for the administration of their programs;
- Ask the Academic Senate, compatible with the available financial resources, the new posts in staff of permanent professor and researchers;
- Make proposals and express opinions, to the extent to which they may be applicable, on the creation, activation, deactivation, removal or modification of Study courses;
- Assigns tasks to teachers in educational courses study of which it is responsible

The Director is the representative of the Department, chairs the Council, oversees the implementation of the resolutions and promotes the activities of the Department in collaboration with the Government. The Director has relationships with other bodies of the University and shall exercises all other powers provided by laws, the Statute and the Regulations. In case of his absence or impediment the Vice-Director can replace him.

The Executive supports the activities of the Director who, eventually, may delegate specific tasks to individual members. The main function is to propose to the council, for debate and approval, opinions and solutions on selected points of the organisation and management of the structure. The Executive meetings are attended by the Vice Director and the administrative secretary.

The Councils of Degree Course is chaired by a President and it is composed of: all the Full, Associated and Assistant Professors who have an official teaching assignment in that Degree Course; representatives voted by the students. The council have the task to plan, organise and coordinate all teaching activities related to awarding a specific degree. The meeting of the Council are fixed every year, or when it is deemed necessary. There are three Council of Degree Courses at the Department, which are respectively competent for:

- *The Master Degree in Veterinary Medicine (5 Year)*
- *The Degree in Animal Science and Food Production (3 Year)*
- *The Master Degree in Hygiene and Safety of Food of Animal Origin (2 Year)*

The Committees have the task of improving the planning, the assessment and the operative management of different activities. The department Council appoints 3 Delegated Committees that analyse and propose solution for the problems arising in the areas of their competence, they are:

- *Teaching Affairs Committee (commissione didattica)*
- *Practical Training Committee (commissione tirocinio)*
- *Research Committee (Commissione Ricerca)*

The Teaching Affairs Committee is a commission, teachers / students, in which the number of teachers must be equal to that of the students. It is composed of 12 members, chaired by the Director or his delegate. This committee is responsible to monitor the provision of training and the modes of delivery of education and all related activities, as well as the quality of student services and it produces an annual report to be submitted to the Academic Senate, the Evaluation Team and the Student Council for the purpose of improving the quality and effectiveness of teaching facilities, including the results obtained in learning, the employment prospects, personal and professional development, as well as the needs of the economic and productive systems.

The Practical Training Committee is composed of 6 teachers engaged in practical activities for the students and 2 representatives students. Plans and organizes all the practical activities of the degree courses both within and outside departmental structures. Promotes agreements with farms and companies, public or private, in the veterinary field.

The Research Committee consists of 4 teachers and a student representative. Plans research activities, stimulates the mergers between research groups, proposes lines of research, testing the scientific production of the components of the Department. Organizes bi-monthly departmental meetings for the exchange of information on various research conducted by teachers.

For more details on the composition and functions of Council, Committee and other bodies mentionated in this Chapter, please see also the following websites:

http://www.uniba.it/english-version/university/governance

http://www.uniba.it/ricerca/dipartimenti/dipmedveterinaria

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

There are no holdings by professional veterinarians in the management of departments and generally, of the University. However in recent years the relationship with professional veterinarians, veterinary epidemiology institutes and companies to public health have been implemented, allowing students to attend facilities outside the department.

2.2 COMMENTS

Add any comments on the organisation and functioning of the Faculty that you feel useful for completing the description.

The Law 240/2010 has radically changed the organizational structure of the Italian universities transferring all powers to the Departments disabling the Faculty.

The University of Bari has complied with the provisions of the law 240/2010 in July 2012 by turning off all faculties, including the Faculty of Veterinary Medicine.

All teachers, including those of Veterinary Medicine, have had the opportunity to exercise an option to choose between various departments according to their affinity science.

On the basis of this opportunity the professors of the old faculty are distributed essentially in two departments:

Department of Veterinary Medicine (DVM), which includes 49 teachers

Department of Emergencies and Organ Transplantation (DETO), which includes 24 teachers.

The Department of Veterinary Medicine, by virtue of the increased presence of teachers in a course of veterinary medicine is considered "Reference Department" while the DETO is instead considered "Associate Department".

The governing bodies of the University of Bari have not yet defined the rules governing the functions of the two departments in the management of the degree course.

However, it is established by article 18, paragraph 3 of the General Academic Regulations (approved on 13.11.2013 with D.R. n. 4318) that the "*Reference Department assumes responsibility for formal and institutional Course of Study relative to the insertion data in the Bank of Studies, managing the procedures for the accreditation of quality of the courses, the functions of educational management and administrative Secretariat of the courses and the dissemination of news and information about the courses, including the academic regulations, including through specific websites. Department of reference deals in addition, the transmission of such information to carry out its duties, the Board of Study Course, the Joint Commission and to the Evaluation of the University*".

2.3 SUGGESTIONS

No suggestion

3 CHAPTER

Finances

Written by
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Contributors
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CHAPTER 3 - FINANCES

3.1 - FACTUAL INFORMATION

The University of Bari is State-funded.

In figure 1 a schematic representation of the State/University/Departments funding system is showed.

Every year the Italian Ministry of Education, University and Research (*Ministero dell'Istruzione, dell'Università e della Ricerca* - MIUR) provides a total of three institutional funds for the financial requirements of the Universities.

- The so called **Ordinary Financing Fund** (*Fondo di Finanziamento Ordinario* - Ffo) is an institutional fund earmarked for the expenditures and the basic activities of the universities as well as for the sporting activities sponsored by the universities. It represents the main item of the universities yearly budget. It arises from a common fund established within the available State budget and it is allocated to the Italian Universities in two distinct quotes, according to a complex range of parameters. The first, "base quote", is a warranted quote, calculated on objective criteria (e.g. the historical expense of the university) and automatically assigned. The second, "reassessment quote", is an adjusted amount calculated on the basis of quantitative and more "meritocratic" parameters such as the educational productivity (e.g. number of students that graduate "in course") and the scientific performances and quality. The reassessment quote reckons also incentives for innovation by awarding prizes to the Universities presenting a virtuous balance of the business year. It is worth stressing that quality parameters of research and teaching, historically ignored, are now becoming progressively more qualifying and a significant scaling down of the "base quote" to favour the more meritocratic "reassessment quote" in the University founding, is expected in the next years.
- The **Fund for the university building and great instruments** (*Fondo per l'edilizia universitaria e le grandi attrezzature* - Feu) is allocated to realize building works, to purchase great instruments for the research and to build sports facilities.
- The **Fund for the university system development** (*Fondo per la programmazione dello sviluppo del sistema universitario* - Fps) is allocated to funding special activities and new didactic projects.

The last two funds are assigned, according to the university building planning scheme and to specific demands, by a commission charged to pick out priorities.

The **Ordinary Financing Fund** along with the **tuition fees** of students represents the bulk of the University yearly budget and it is used to cover almost all the expenses for teaching and support staff.
The University, in fact, is in charge of directly supporting the **cost for the academic teaching and support staff** using part of Ffo. Then, this quote (approximately 90% of total Ffo) is not transferable to the Departments and the actual quote assigned by the University of Bari is about 10% of the total Ffo.
General expenses, on the contrary, are covered jointly by the University and the Department as shown in table 3a and table 3b.

Table 3a - Institutions in charge to cover general expenses of the Veterinary Medicine Degree Course at the University of Bari

Expenditure item	Central Administration of the University	Departments
Air conditioning (heating/cooling)	●	
Gas	●	
Water	●	
Electricity	●	
Telephone	●	●
Disposal of ordinary waste	●	
Disposal of special waste (chemical and biological)		●
Cleaning	●	
Gardening		●
Caretakers and night-watchman service	●	
Maintenance of facilities	●	●
Maintenance of buildings	●	●

Table 3b - General expenses of the institution covered by the University of Bari from 2011.

Expenditure item	Year		
	2011 (€)	2012 (€)	2013* (€)
Air conditioning (heating/cooling)	24.878	24.878	24.878
Gas	27.933	33.925	37.446
Water	20.388	19.700	20.000*
Electricity **	219.152	280.552	240.00*
Telephone	633	204	200*
Cleaning	353.633	331.818	330.444
Caretakers and night-watchman service	70.078	70.078	70.540
Disposal of ordinary waste	47.700	47.700	47.700
Maintenance of facilities	-	-	-
Maintenance of buildings	130.315	36.732	77.073
TOTAL	**894.710**	**845.587**	**848.238**

*estimate according to the invoices paid until October and to the previous year costs.
** net from electricity expenses for air conditioning.

Resources to pay **operating and teaching costs** are passed on by the University to the Department, according to a range of parameters related in the following paragraphs.

Further funds allocated to the Departments derive from:

- Public Authorities such as Ministries (e.g. MIUR; Ministry of Health; Ministry of Agricultural and Forestry Policies, etc.), European Research Agencies, Zoo-prophylactic Institutes or the Region (mainly funds for research).
- Several private enterprises (mainly funds for research).
- Clinical and diagnostic services.
- Food and feed analyses services.

The financial data presented in this document keep into account the fact that the establishment offers various degree programs (see Chapter 4 - Curriculum). Therefore, as stated in Table 3c, not all the resources available are used for supporting the costs of the Veterinary Medicine Degree Course. However, about 80-90% of the total budget assigned is used for the Veterinary Medicine Degree Course. This is possible because the teachers of the different Degrees jointly organise practical works within or outside the Vet-Campus. These didactic opportunities can be offered to the students enrolled to all degrees thus allowing a considerable saving in expenses.

Table 3c - Budget allocated for teaching expenses to the Veterinary Medical curriculum during the period 2011-2013.

	2011 (€)	2012 (€)	2013 (€)
Total budget for teaching allocated to the Department	48.146	45.569	45.000
Total budget for teaching allocated by the Department to the Degree in Veterinary Medicine	40.500	40.500	40.500

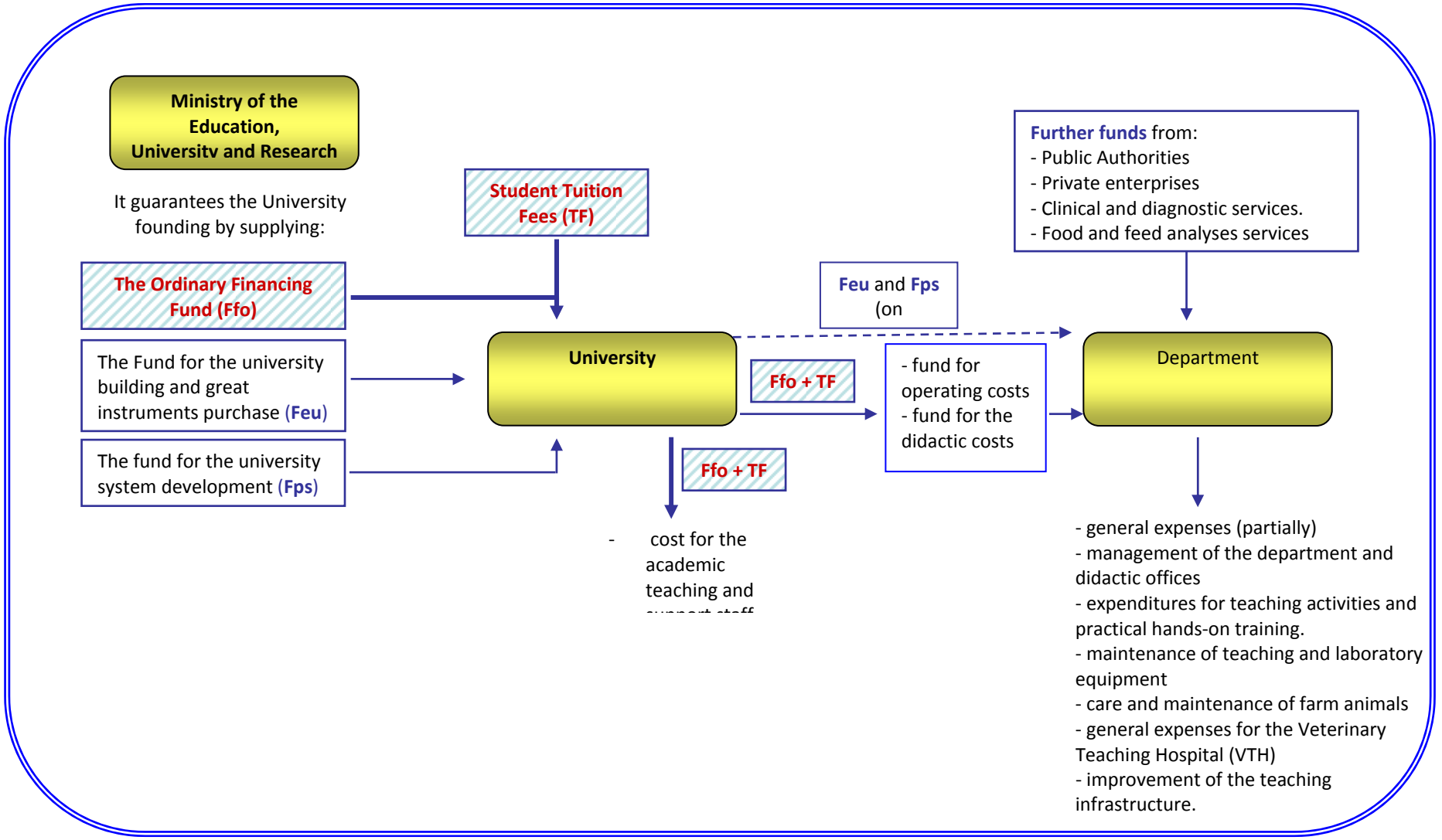

Figure 1 - Schematic representation of the State/University/Departments funding system. Extraordinary funds can be also assigned by the University to the Departments for special needs (see in the text for details)

Ffo = Ordinary Financing Fund; Feu = Fund for the university building and great instruments; Fps = Fund for the university system development; TF = tuition fees

3.1.1 General Information

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

Despite the National sub-optimal education policies, as well as a number of difficulties and restrictions that progressively increased during the last years because of the national and international financial crisis, the general financing system of the University of Bari has allowed the Faculty of Veterinary Medicine to follow the stated mission. In fact, the available budget has allowed attaining, to an acceptable extent, the objective indicated in Annex I of EAEVE SOPs.

- *Performing adequate research based teaching*
- *Attracting and retaining highly qualified academic and support staff to reach or exceed satisfactory teaching staff/student and teaching staff/support staff ratios*
- *Ensuring provision and renewal of up to date teaching (including IT) facilities, laboratory and clinical equipment (including vehicles for the ambulatory clinics)*
- *Ensuring teaching and clinical training in premises with adequate hygienic and safety standards*
- *Ensuring adequate intramural clinical training by securing an adequate caseload including emergencies, across animal species and adequate provision of stationary and ambulatory (mobile) clinic service, according to the most recent advanced veterinary medicine*.

It can't be denied, however, that the "austerity" law (133/2008), passed by the Government in 2008 and establishing major cuts to the State-funded University Ffo starting from 2009, has strongly limited the expectation of the establishment as for the possibility to improve the quality training offered by the course. The main item that has been badly affected by these cutbacks in funding is the recruitment of qualified support staff, as well as academic staff, with expertises in some specific areas. Moreover, even if the rough percentage of decrease in the Ffo occurred during the 5 past years (of about -12%) has obviously pushed the choice to address all investments towards the improvement of undergraduate teaching, the funds available for clinical training during the past years were very limited and all the projects planned by the teaching staff could not be realized.
Starting from 2014 no further cuts are expected and the Ministry Ordinary Financing Fund for the Universities should remain the same.

How the allocation of funding (including public funding) to the Faculty is determined, and by what body.

As previously described, the Department of Veterinary Medicine receives funds from:

- The University of Bari
- Users of the services provided
- Public and private sponsoring sources (mainly research funds)

The Institutional Public Funding coming from the University, accounting for the bulk of yearly budget available for the Department expenditures, derives from a fund constituted by the Ministry Ordinary Financing Fund, curtailed from the staff wages that are directly paid by the University (approximately 90% of total Ffo), and from the tuition fees paid by the students that are directly cashed by the University. As for details for the tuition fees collection (how much they are, how they are decided, how they are distributed) see further on.
This income is therefore composed by about 83% Ffo and 17% tuition fees.
The Italian Universities enjoy an almost total administrative autonomy in management of financial resources.
Allocation of the Institutional Funding to the different Departments that constitute the University of Bari is responsibility of Academic Senate and of the Board of Governor that distribute the fund after shearing into three quotes:

- The **endowment fund for operating costs** (*Dotazione ordinaria di funzionamento*)
- The **fund for the didactic costs** (*Fondo per il miglioramento della didattica*)
- The **contribution for practical works implementation**

In Table 3d are the amounts of the three funds assigned to the ex-Faculty (2011-2012) and to the Department of Veterinary Medicine (2013) during the last 3 years.

Table 3d - Ordinary funds assigned to the ex-Faculty of Veterinary Medicine/Department of Veterinary Medicine by the Central Administration during the last 3 years.

	2011 €	2012 €	2013 €
Endowment fund for operating costs	12.000	9.444	-
Fund for the didactic costs	33.146	30.569	30.000
Contribution for practical works implementation	15.000	15.000	15.000
TOTAL	**60.146**	**55.013**	**45.000**

These Department budgets have to cover partially the general expenses (see Table 3a) and:

- the management of the department and didactic offices
- the expenditures for teaching activities and practical hands-on training
- the costs of teaching contracts
- the maintenance of teaching and laboratory equipment
- the care and maintenance of farm animals
- the general expenses for the Veterinary Teaching Hospital (VTH)
- the improvement of the teaching infrastructure.

The University of Bari may also assign extraordinary funds for special needs related to improvement of the teaching activities, facing of extraordinary repairs, purchase of new equipment, supporting significant initiatives, etc.
The Veterinary Teaching Hospital, for instance, was constructed with an investment allocated by the Ministry of University and the European Community for buildings and by University funding for furnitures.
In the last years the ex-Faculty received from the University of Bari the following extraordinary funding:

- 20.000 € as a contribution to purchase the used mini-bus, now assigned to the clinic mobile activities
- 60.000 € to establish an agreement with three practitioners engaged for the emergency service of the Veterinary teaching hospital (30.000 € already assigned and 30.000 € approved by the Board of Governor but not yet assigned)
- 2.500 € to purchase a photocopier dedicated to the students needs.
- 5.000 € to establish contracts with workers for the Veterinary Teaching Hospital needs.

A project for the restoration of an unused wing of Building 07 (See Chapter 5 - Facilities and Equipment), destined to a Multifunctional Educational Laboratory, a new classroom and a guest house for visitors, has been approved by the Administration Council for an amount of 800.000 € (Council of the Faculty of Veterinary Medicine 10.12.2008 -resolution of the Academic Senate 22/10/2013) and the construction is expected to start in 2015. The delayed start of the works is a direct consequence of the reduction of the funds transferred from the Ministry to the University of Bari within the specific allocation for the construction of new buildings (see above).
Finally, the University of Bari ensures yearly fundings to support researcher activities (purchase of computers or minor laboratory equipments) and a small number of grants to support researchers, students, post-docs or neo-graduated vets during study/research training periods spent at national or international Institutions.

Main resources generated by **service provision** are from continuing education events, post-graduation schools (Schools of Specialization, Masters) (see Chapters 11 - Continuing Education and 12 - Post graduate education), advisory/consultancy services and clinical/diagnostic services. Payments for provision of service are immediately available to the Departments after deduction of a quote for the University (see following paragraph) and are destined to covering expenditures for research, for practical training activities and for improvement of the teaching equipments. Moreover, part of the money generated through these services can be destined to the academic and support staff as incentives.

Public and private sponsor provide funding mainly for research. Currently, however, the Department has been called to provide medical assistance and professional consultancy for the management of a wild birds shelter at the Regional faunal observatory station (Bitetto - BA) and of donkey breeding at the Centre for the conservation of Martina Franca donkey genetic inheritance (Martina Franca -TA). These services are rewarded by 30.000 € and 5.000 € per year, respectively.

Fund raising for **research** is based on the capacity of the research groups operating in the departments when they succeed in international and national grants competitions or when they receive commissioned specific research studies by companies or other agencies.
The resources for scientific research deriving from the University are limited and vary each year according to the available founds ant to the number of projects approved by the University Research Committee.

In addition please specify: if the allocation of funds, or any significant proportion of it, is linked to a particular factor (e.g. student numbers, research output), please describe this

Except for a portion (1/4 of the total) that is distributed equally among all the Departments, the number of members of the academic staff (weighed with various correction parameters) is the main parameter used for allocation of the **endowment fund for operating costs** to the departments.
On the contrary, the number of enrolled students, the number of degrees managed by the Department, the number of teaching staff and the number of University Learning Credits (ULC) actually received by students during their study years are still the main parameters for allocation of the **fund for the didactic costs**. According to the more meritocratic line of action espoused by the Ministry to funding the Universities, therei is a higher consideration for the research out-put by the Department. The research merit is slowly but progressively being given more attention also by the central administration of the University of Bari in funding allocation to the Departments.

How the basis for funding the Faculty compares with those teaching other courses (e.g. whether veterinary training receives a higher budget weighting compared to other disciplines).

The University of Bari, in addition to the parameters aforementioned, does not apply further differential criteria for funding the various Departments. Moreover, at the University of Bari, all the students have to pay a tuition fee, which is the same regardless of the courses they are enrolled in.
The fact that there is no implementation of the rules/guidelines to weigh the expenses sustained by the different Departments is damaging the Veterinary Medicine Course, that has to face up high cost trainings, unlike, for example, the costs sustained for training in the humanities.

How the allocation of funds within the Faculty is decided?

The allocation of funds for operating and didactic costs of the Veterinary Medicine Course is managed by the Department of Veterinary Medicine Board on the basis of the opinion of the Department consulting bodies. The board shares out the resources according to objective criteria deriving from the experience gained in previous years on the ordinary training costs, also taking into account the pressing needs. The Department Board is in charge, moreover, to gather teaching-related needs by all the teachers and, due to the shortage of resource, to mediate and propose the best allocation of funds for the didactic improvement.

What are the mechanisms for funding major equipment and its replacement?

Most of the equipments (new and replacement) for teaching and research at the Vet Campus premises have been purchased over the years with either external private or public sponsors or with research funds.
For this purpose, two dedicated items of expenditure, namely "Fund for major equipments" and "Fund for minor equipments" (*Fondo grandi attrezzature* e *Fondo piccole attrezzature*) are allocated in the University budget and an annual call for Department or single teacher proposals is held. The University, for example, funded the majority of the major furniture at the Veterinary Teaching Hospital and at the research/educational laboratories, when the ex-Faculty completed the relocation at the Vet-Campus of Valenzano.
In recent years, rising budget difficulties at University of Bari, and all public Universities in the Country, have strongly limited this expenditure item. Currently external funding (including funding of research projects) and the use of self-generated income represent the only resource for purchasing/replacing major equipments.

What are the mechanism(s) for funding capital expenditure (e.g. building work, major items of equipment) and how decisions are taken in this matter?

All capital expenditures, defined as major investments for facilities, buildings and their restoration, are regulated directly by a special Planning Committee (*Commissione Edilizia*) of the central Administration of the University that, after an overview of the needs of the various Departments, establishes a 3-years University building plan (*Piano Edilizio*) according to the priorities. The Administration Council, then, approves the expenses based on the yearly available dedicated budget (Fund for buildings - *Fondo per l'edilizia*).
In 2009, the project to convert the unused premises (a wing of Building 07) (See Chapter 5 - Facilities and Equipment), to Multifunctional Educational Laboratories, to a new classroom and to a guest house for visitors, was submitted to the Planning Committee. This project has been now approved by the Board of Governor with the start of work being planned in 2015. In general, irrespective of the contingent financial issues, the process of funding capital expenditure is always long and the time elapsing from a proposal to the end of the work always takes several years.

What are the mechanism(s) to provide the necessary support for building maintenance and how decisions are taken in this matter?

The non-ordinary maintenance costs for buildings are covered by the University through a special Technical Office (*Ufficio Tecnico*) that manages all the maintenance activities. A branch of this office is in charge of the Vet-Campus, and reviews the needs for non-ordinary maintenance works that are reported to the office by the Director of the Department of Veterinary Medicine.
Because the University invested funds for building maintenance are in general not sufficient to meet all the necessary requirements, a priority is given to urgent and safety-related works.
Fund invested in maintenance of the building and facilities at the Vet-Campus in the last three years are reported in table 3b.
Therefore the costs for building ordinary maintenance and the costs for equipment maintenance and their upgrading are covered by the Departments.

3.1.2 Information on extra-income

What percentage of income from the following sources does the veterinary teaching Faculty have to give to other bodies (university, etc.)? Clinical or diagnostic work, research grants, other (please explain).

A part of the income generated by service provision must be returned to University of Bari. Deduction, in percentage, of the income depends on the typology of the funds as defined in table 3e.

Table 3e - Percentages retained by the University from extra-income generated by the Departments

Source of income	Distribution rules	
	University %	Department %
Specialization schools	43	57
Master	30	70
Advisory services and clinical/diagnostic services	19*	81*
Research	5-15**	85-95**

*up to 61% of the total net amount (for instance 14% for clinical services) can be distributed among the staff who has contributed to the service

**depending on the total amount of the grant

Please indicate whether students:
- Pay tuition/registration fees,
- How much these are,
- How they are decided,
- How the funds are distributed.

Students of the University of Bari pay their annual tuition fee in three instalments during the year. As aforementioned, there are no differences in individual tuition fees paid for by the students enrolled in different degree courses.

Every year the Academic Senate decides the amount that should be paid as tuition fees but in the three years considered in this report the tuition fees have not been changed. Moreover, according to the national rules, the amount of the income deriving from the fees paid by the students must not exceed 20% of the general expenditures of the University. Therefore, the possibility to increase the tuition fees is very limited and, also, the general policy of the Italian Universities is mainly aimed at keeping the tuition fees as low as possible in respect of the "right of education" stated by the Constitution of the Italian Republic.

The tuition fees for student are composed by two shares, the admission fee and a contribution for the training/education costs. The admission fee is calculated on the basis of merit, while the training/education costs are calculated on the basis of the the family income, in order to support the education of students from low-income families.

The maximum admission fee is 342.47 € and this can be reduced to 0 for students with merit, whereas the maximum training/education cost is 1076,55 € and can be reduced to 0 on the basis of the based on family income. Therefore the annual costs sustained by students enrolled in the Degree Course of Veterinary Medicine of Bari range from a maximum of 1419 to a minimum of 0 €. Furthermore, at the end of course, the students have to pay 65 € for a copy of the degree's certificate.
"Off-course" students (see Chapter 9 - Student Admission and Enrolment) loose any economic benefit bounded to the merit but maintain the benefit bounded to the family (or personal) income. On the other hand, merit students are awarded with a 250 € voucher to purchase books.
Funds deriving from tuition fees at all the Degree Courses are cashed by the University of Bari and added to the funds obtained by the competent Ministry. These funds are returned than to the various Degrees in form of the endowment fund for operating costs and of fund for the didactic costs (see previous parts of this Chapter)
In Table 3f the total amount of fees paid for by students of the Veterinary Medicine Course of Bari in the last three years is shown.

Table 3f - Total amount of tuition fees paid by the Veterinary Medicine students to the University of Bari in the last three years.

Total amount €		
2011	2012	2013
989.428	1.247.893	1.321.136

3.1.3 - Overview of income (revenue) and expenditure

An overview of the ex-Faculty/Departments income in the last 3 years is reported in tables 3.1.

Table 3.1 - Income /revenue

Year	State		Income generated by the Department				TOTAL
	To University administered outside the Department[1]	Direct to Departments[2]	Income from services provided		Research		
			DVM	DEOT	DVM	DEOT	
2013	7.856.906	70.500	274.904[3]	77.775[3]	475.381[3]	1.192.000[3]	9.947.466
2012	7.795.079	49.944	282.505	69.777	690.128	926.500	9.813.933
2011	7.637.672	52.500	271.518	60.440	499.619	1.385.000	9.906.749

[1] the University also cashes the students tuition fees (see table 3f)
[2] as mentioned above, no ordinary funds come directly form the Ministry to the Departments but Departments receive an amount of funds assigned by the Ministry to the University.
[3] income cashed until October 2013.
DVM = Department of Veterinary Medicine; DEOT = Section of Veterinary Clinics and Animal Production of the Department of Emergencies and Organ Trasplantation.

A general description of the ex-Faculty/Departments expenditures in the last 3 years is reported in tables 3.2.

Table 3.2 - Expenditures

Year	Pay	Non pay				TOTAL
	Salaries	Teaching support	Clinical support	Research support	Other[1]	
2013	7.008.668	40.500	63.593**	1.285.257**	848.238[2]	9.246.256
2012	6.949.492	40.500	53.886	853.605	855.031	8.752.514
2011	6.742.953	40.500	44.012	1.589.272	906.710	9.323.447

* operating costs
** expenditures paid until October 2013.

As shown in tables the income and expenditures for salaries represent the main voice in the Veterinary Medicine Course budget (about the 71% and 75% respectively). The operative funds channelled by the University of Bari to the Department are not objectively enough to support all operative teaching and clinical expenses of the teaching. This lack is partlially compensated by the income from services provides and from the research grants obtained from public and private sources.

The training cost of a veterinary student at the Veterinary Medicine Degree of the University of Bari may be approximately deduced from the data presented in table 3.2, considering as total expenditures related to the undergraduate training the total expenditures per each particular year minus the research support. According to this evaluation the estimate cost of the student training for the year 2013, can be inferred by the above mentioned amount of euros spent (7.960.999 €) divided by the number of students enrolled in the same year (*n* = 773). The estimate indicates a student cost/year of about 10.299 €, thus showing that the tuition fees paid by students clearly cover only a limited part of the training costs.
It must be underlined, moreover, that such an estimate is calculated by including all the Degree courses offered at the Vet-Campus (total expenditures, teachers, staff, and students) and without considering the different costs of more expensive "in course" students and less expensive "off course" students (see Chapter 9 - Student admission and enrolment). Therefore the above-mentioned student cost/year underestimates the effective annual cost for training a student in veterinary medicine.

3.2 Comments

Teaching establishments never have enough finance. Please comment on any of the "Guidelines and requirements" that are particularly difficult to fulfil in the present financial situation. Please make any comments that you feel would help the experts concerning the Faculty's finances.

First of all, it should be stressed that, before the global economic crisis, the situation of finances of the ex-Faculty of Veterinary Medicine of the University of Bari was not unsatisfactory. Sufficient funding was regularly made available to the Dean office and to the Departments both for ordinary expenditure and the teaching costs. Moreover, a number of extraordinary funds were assigned

chiefly to improve the teaching quality and to help/support the younger memberes of the staff (purchasing of PCs or minor laboratory equipments for the research, covering the costs of congresses or working seminars abroad and so on). Shortage of University resources has produced a process of centralization of these resources, to the detriment of peripheral bodies and has negatively affected all the university financial fields (resources for the didactics and for the research).

In paragraph 3.1.1, the main difficulties met by the department in maintaining and improving the quality of teaching offered by the course, accounted for by the global decreasing of financial resources, has been already pointed out. In particular, the financial restraints negatively affect the possibility to attract highly qualified academic and support staff to reach satisfactory teaching staff/student and teaching staff/support staff ratios.

The policy adopted in the past years by the administration body of the course, to allot the bulk of available budget towards the improvement of undergraduate teaching, has ensured the optimal progress of the student training. This has been made it possible mainly because premises and facilities currently available at the Vet-Campus are relatively new and do not require urgent maintenance interventions and/or renewal. However, there is a justified concern for the next years due to the expected aging of these goods and the inevitable need to earmark funds to up-date the teaching facilities, laboratories and clinical equipments.

As for the performances of adequate research-based teaching, the incomes from the research funds guarantee to fulfil fully the requirements and the scientific activities carried out by the teaching staff are a solid background for the training of undergraduate and post-graduated students.

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

The possibility that public funding will increase is frankly unrealistic. Starting from 2014 we can hope that no further cuts will be applied to the public fundings and that the Ministry Ordinary Financing Fund for the Universities will remain the same.

However, should an increased funding become true, the following points would be given an absolute priority:

- increasing the number of permanent staff, i.e. researchers and support staff mainly directed to clinical duties
- increasing the number of agreements with external qualified teaching staff (state veterinary officers, practitioners and representatives of veterinary professional associations with expertises in some specific areas).
- increasing the possibilities to offer post-doc scholarships.

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

The financial autonomy of the Department is real but is limited to the ordinary functions that can be managed with the small funding allotted by the University and with the resources deriving from the services provided. Actually, the main investments (e.g. maintenance/improvement of the building patrimony, hiring of new staff, etc.) are totally managed by the central administration of the University. Due to the increasingly heavier bureaucracy, the time elapsing from the resources

allotment and the work realization can be very long, which may be very detrimental in case of urgency. Should a more direct autonomy in the usage of fundings be left to the Department, a more rational use of funds and a decreased waste of time would be surely guaranteed.

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

Because important areas of expenditures are managed centrally and paid by the University, it is acceptable that the University may impose a deduction on the income from services provided by the different sections of the Department.
As for the deduction for consultancy and clinical/diagnostic services, moreover, it strongly restricts the amount that can be distributed among the staff that has contributed to the service, because the residual amount is often barely enough to cover the expenses. In some cases, the staff members waive the right to this extra personal income, but this is surely a discouraging condition for the work activities.
The income derived from the post-graduation schools have not been considered in the present report, as all this income is completely used for the expenditures of the schools without any actual contribution to the general expenses of the establishment, which is the same used for the Veterinary Medicine Degree Course. Thus, in the next years all post-graduation schools should contribute economically to the maintenance of buildings and general expenses.

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

No special comment

3.3 Suggestions

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

It is not possible to deny that from the financial point of view the situation of the Faculty is not completely satisfactory. Starting from 2014, no further cuts of the public funding are expected and the negative trend that has characterized these last years should get to a turnaround point.
However, the possibility of a real change in terms of efficiency and optimization of the finances of the Department is currently limited and with limited perspective in a short-medium term perspective.
Therefore, by waiting the arrival of better times, in order to maintain the good quality of teaching and research so far generated and to face up possible future financial challenges, two types of interventions can be suggested.

The first intervention envisages the essential participation of the central administration of the University and should achieve the 3 following goals:

- increasing in the tuition fees paid by the student
- introducing a compensation index *pro capite* to be recognised for each veterinary student, when allocating the fund for the didactic costs at the Department of Veterinary Medicine due to the well-known high costs of veterinary undergraduate training compared to the costs for training of humanities students.
- a cutback of the deductions imposed by the University on the income generated from services provided by the sections involved in the Veterinary training.

The second type of intervention envisages the direct participation of all the staff involved in the veterinary training and it is already under way. In fact, the main goal that the Departments have to set at this moment is to increase their visibility and to become more attractive through the promotion and development of ever better and new services and consultancy activities. In this way it is possible to enhance the interest of public and private enterprises and promote partnerships and attract more money from sources different from the State.

Moreover, because the public founding trend seems to go towards a mechanism for funding distribution based more strictly on scientific productivity and economic efficiency, the researchers cannot give up in the endless rush to find external resources for research and to maintain the high level of the their scientific activity. Also, more rational ways to manage the funding resources have to be applied.

Whether these inevitable strategies to get money are correct from the perspective of resources optimization is not sure. In fact, the search for funding is time-consuming and can lead to a loss of commitment to the quality of teaching due to the decreased time left to invest in academic activities of the teaching staff. This is in conflict with the decision of our Degree course to implement the pedagogic approach of the Bologna's process, which envisages more didactic involvement by the teaching staff. There is the hope that in the next few years, the academic community will adopt a policy to promote the culture of rewarding teaching commitment and excellence. This would stimulate strongly the staff and should be recognised as a parameter for the allocation of Ministry founding.

4 CHAPTER

Curriculum

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CHAPTER 4 - CURRICULUM

4.1 - FACTUAL INFORMATION

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

In the past fifteen years, higher education in Italy has undergone major reform to align itself with the European model. In addition, since 1999 higher education has been fully reformed to meet the objectives of the "Bologna Declaration".
The whole reform process was based on two main regulatory provisions: the Ministerial Decree n° 509 enacted on 1999 (MD 509) and the Ministerial Decree n° 270 enacted on 2004 (MD 270) which has reviewed some aspect of the first one. Recently, a further Ministerial Decree enacted on 2013 (MD n° 47) has introduced a series of rules finalized to perform periodically the self evaluations and evaluations of the Italian Universities and University courses in order to provide their quality assurances and accreditation (see Chapter 5 - Teaching and Learning: quality and evaluation).

MD 509 has generated a substantial changeover of the general framework of all university courses by introducing a series of innovations the most important of whom can be briefly summarised as follow:

- the traditional undergraduate courses lasting 4 and 5 years was replaced with a two-level system: the 1st level degrees last 3 years (professional degrees), and the 2nd level (specialist) degrees last a further 2 years. However, degree courses in Medicine and Surgery, Pharmacy, Chemistry and Pharmaceutical Technology, Veterinary Medicine, Architecture and Law do not follow the two-level system and have maintained degree courses with a curriculum structure lasting 5 or 6 (Medicine and Surgery) years.

- in a way similar to the European Credit Transfer System (ETCS), the University Learning Credits (*Credito Formativo Universitario* - CFU) were introduced as measure of the amount of student working load. The CFU represents the measure of the amount of training and individual work necessary for each student with an adequate basic preparation to achieve the learning objectives established for any particular university course. One CFU corresponds to overall 25 hours of learning commitment (lectures/practical and individual work) for each student. The individual work cannot be less than the half of the total amount of CFU hours except in case of activities such as experimental and practical learning.

According to the text of the MD 509, the Curriculum of the Degree Course of Veterinary Medicine has a general framework valid at national level that is established by the Ministry of Education, University and Research (*Ministero dell'Istruzione, dell'Università e della Ricerca* - MIUR). It lasts 5 years and comprises a total number of 300 credits i.e., about 60 per years, distributed in a maximum of 30 exams.

The most recent educational reform, introduced with MD 270, has further modified the general framework of the university courses, including the Veterinary Medicine Course.
The 25 hours/credit balance among lectures, practical and individual work may now to be defined by the Teaching Regulation of each University course and may vary depending on the area of study, the disciplines and the typology of the teaching. At the Veterinary Medicine Course of Bari, the amount of time to be dedicated to individual learning for each CFU ranges between 0 hours (practical trainings) to 17 hours (basic subjects).

The MD 270, moreover, establishes the different academic sectors ("Scientific-Disciplinary Sectors" - SDS - see Chapter 10 - Academic and Support Staff) of the Italian university educational system, which must be included in the curriculum and assembles it into 4 main groups of training activities (see table 4b for the SDS included in the new curriculum of the Veterinary Medicine Degree of Bari). Within these groups, all learning activities are merged in a set of disciplinary areas including subjects considered culturally and professionally related. The MD 270, moreover, states the minimum number of credits to assign to each group of disciplines as shown in Table 4.

Table 4 - New curriculum in Veterinary Medicine: minimum of credits (CFU) per category of disciplines as established at national level (MD 270/2004).

DISCIPLINES/ACTIVITIES		CFU NUMBER
		Minimum number
1	basic disciplines	58
2	characterizing disciplines	130
3	similar or integrative disciplines[1]	12
4	other activities[2]	*

[1] that should mirror the vocation of the geographical area and the expertise of the available teachers.
[2] i.e. elective disciplines, foreign language, obligatory final dissertation work, further practical training, etc.
* no indication by law

The decisional process for the new curriculum application was developed by the intervention of three levels which had its own specific consulting body. The three levels were the following (in parenthesis the consulting body):

- the Faculty Board (Didactic Commission, consulting: compulsory)
- the University (Academic Senate, consulting: compulsory)
- the Ministry (University National Council, consulting: compulsory).

Every decision, before reaching the maximum level (Ministry), must be approved by all the subordinate levels, one after the other: so each level can intervene in any decision.

The reorganization of the degree curriculum has been an excellent occasion to improve the didactic offer and to amend the drawbacks of the previous experiences.

At the Veterinary Medicine course of the University of Bari the curriculum established by the MD 509 (indicated within this document as "Old curriculum") was activated on 2001 and was effective when the last EAEVE Commission visit occurred while the curriculum established by the MD 270 (indicated within this document as "New curriculum") is active since 2009.
Starting from 2009 the new curriculum as been introduced gradually, one year at time, and at present (academic year 2012-2013) the last year of the old curriculum is over and the first 4 years

of training follow the new curriculum. Therefore at the Commission visit time (academic year 2013-2014), the old curriculum will be completely replaced by the new one that will be fully operative by completing its first five years cycle.

The present Chapter will illustrate the New curriculum that is operative at the Commission visit time, i.e. at the Academic Year 2013/2014.

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

Within the general national framework, each University has had a relative freedom to establish its own curriculum of the veterinary course provided that the following main rules were respected:

- number of credits allocated to the four groups of disciplines had to be equal or higher than the minimum established at national level. For example, MD 270 dictates the shearing of a minimum of 200 CFU leaving 100 CFU free for each Veterinary course to organize its own curriculum (see Table 4a);
- total number of credits had to be 300;
- duration of the whole Degree course had to be 5 years;
- maximum number of exams had to be 30;
- a minimum of 30 CFU had to be assigned to practical training supervised activity;
- a minimum of 8 CFU had to be assigned to "elective" subjects.

Table 4a - New curriculum in Veterinary Medicine: distribution of credits (CFU) deliberated by the ex-Faculty of Veterinary Medicine of Bari in comparison with the minimum number of credits per category of disciplines as established at national level (MD 270/2004).

DISCIPLINES/ACTIVITIES		CFU NUMBER	
		Minimum number according to MD 270	Number deliberated by the ex-Faculty
1	basic disciplines	58	62
2	characterizing disciplines	130	159
3	similar or integrative disciplines[1]	12	12
4	other activities[2]	*	67
TOTAL		**200**	**300**

[1] that should mirror the vocation of the geographical area and the expertise of the available teachers.
[2] i.e. elective disciplines, foreign language, obligatory final dissertation work, further practical training (*tirocinio*: see below)
* no indication by law

Moreover, according to the MD 270 requirements, a greater allocation of CFU to professionalizing subjects and free CFU in clinical subjects are expected based on vocational training.

The ex-Faculty, therefore, had to deliberate as own proposal on a number of structural point as:

- the number of credits allocated to disciplines;
- the number of credits allocated to the "other activities";
- the denomination and structure of the courses;
- the typology and organization of the "other activities".

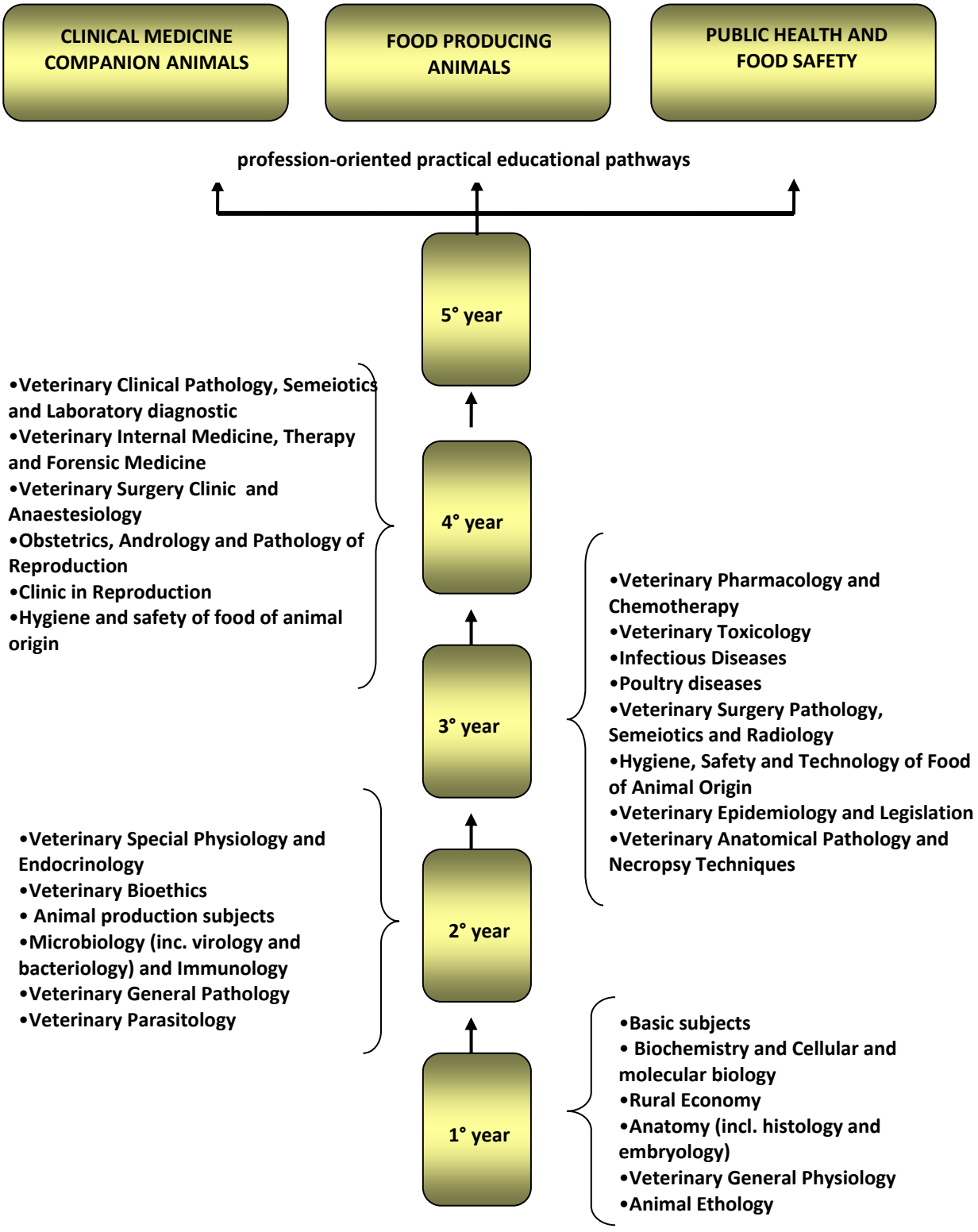
This allowed the ex-Faculty to design its curriculum of studies within the rules set by the new law, but with a certain amount of freedom.

In particular, three main modifications have been introduced in the new curriculum:

- the reduction of CFU number assigned to the basic (-4) and characterizing (-26) disciplines to increase the number of hours in practical training;
- the teaching activity organized in 20 short condensed 6 weeks periods (4 for each year) spaced out by 2-3 lectures-free weeks that students can devoted to the home study and to take exams
- the activation of a 5th year, informally trident, which includes 3 optional tracks in vocational professionalizing disciplines (professionalizing didactic path - PDP) and provides to the students a timely full immersion in profession-oriented theoretic/practical activities.

A schematic representation of the framework of the Veterinary Medicine Course of the University of Bari is shown in figure 4.1.

Figure 4.1 - The trident configuration of the Veterinary Medicine Course at the University of Bari. The trunk of fork summarizes the Multi-disciplinary Courses followed by all the veterinary students. The specific modules (three prongs of the 5th year) for the different educational pathways are itemized in the text.



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

Two processes were run, almost in parallel, to construct the new curriculum.
The whole long-lasting decisional proceeding started in 2008 and has been developed gradually, one year at time. It has been supervised by the Commission for Teaching Affaires working in collaboration with some members of the permanent teaching staff, each representing basic and characterizing disciplines, and with student delegates.
The first output was a document aimed to supply the general framework of the course and composed by the following section:

- general information and data;
- general teaching objectives;
- criteria followed in the course modification following the new legislative requirements (MD 270);
- the advise for the new curriculum by the representative of local professional and production institutions (the Chamber of Commerce, Industry, Crafts and Agriculture, the Provincial Veterinary Medical Associations Boards, the Federation of Veterinary Chambers);
- specific teaching objectives and description of the formation project;
- expected learning results expressed in terms of the European descriptors of the study titles (knowledge and understanding, applying knowledge and understanding, making judgements, communication skills, learning skills);
- basic knowledge on the admission;
- characteristics of the final Dissertation work;
- range of working perspectives;
- the range of credits to be allocated to the different groups of disciplines according to the minimum number sets by the MD 270.

This document was debated and approved by the Council of the ex-Faculty and submitted to the Evaluation Committee of the University of Bari for review. Following some minor revisions, the final draft was definitively approved by the Faculty Board and by the University Academic Senate (29 April, 2013). The final approved document was then submitted to the relevant consulting body of the competent Ministry (MIUR), named University National Council (*Consiglio Universitario Nazionale* - CUN) eventually raising the rank of official Didactic Regulation of the Veterinary Medicine Course of the University of Bari.
Starting from this document, that now concurs to constitute the Didactic Regulations of the University (*Regolamento Didattico di Ateneo* - RAD), the second parallel process for the constitution of the New curriculum was aimed at the identification and denomination of the courses constituting the New curriculum and the allocation of the corresponding credits.
Again a first draft, consistent with the RAD, content was prepared and submitted for the approval by the Faculty Board. In designing the curriculum, a great of attention has been paid to comply with the European standard required by EAEVE recommendations (Directive 2005/36/EC). Moreover, the new curriculum was drown up considering a careful assessment of teaching and support staff number, the appropriateness of infrastructure and adequacy of facilities and equipments, the agreements for extramural activity and the economic and productive context (pets, livestock farms, and food industries). The draft was revised and integrated to obtain the present curriculum organization (Table 4b) definitively approved as official curriculum by the Veterinary Medicine Department Council (in the meanwhile succeeded to the Faculty Board) and ratified by the University Academic Senate. For this last draft no advise to the Self-Evaluation

Committee of the University nor to the Ministry had to be requested and the curriculum may be annually pending approval by the Academic Senate.

In future:

- should any major revision of the curriculum be necessary (such as allocation of credits beyond the range established by the RAD) all the time-demanding aforementioned procedures should begun all over again;
- should any minor revision of the curriculum be necessary (such all revisions which do not require allocation of credits beyond the range established by the RAD) only the second process should be resumed. Each year the Faculty/Department Board reviews and approves the Didactic Course Regulation by introducing minor ameliorative changes that have to be ratified by the Academic Senate;
- should any change to the form and content of the scheduled frontal lectures and practical be necessary, the responsible teacher can communicate it to the Didactic Commission for debate and approval in temporal order by the Didactic Commission itself and by the Veterinary Medicine Department Council.

Table 4b - New curriculum of the Veterinary Medicine Degree (MD 270) at present included into the Didactic Regulations of the University of Bari. Actual distribution of subjects and credits.

Training activity	Disciplinary areas	Scientific Disciplinary Sectors* (SDS) involved in the training	"Core" subjects		PDP** (V year)		TOTAL	
			CFU	h	CFU	h	CFU	h
Basic	Subjects applied to medical-veterinary studies	CHIM/03: Chemistry FIS/01: Physics	6	48			6	48
	Subjects on vegetal and animal biology and genetics	BIO/01: General Botanic BIO/05: Zoology	6	48			6	48
	Subject on structure, function and metabolism of biological molecules	BIO/10 Biochemistry, Molecular Biology BIO/11: Molecular Biology BIO/12: Clinical Biochemistry and Molecular biology	12	96			12	96
	Subjects on structure and function of the animal organisms	VET/01: Anatomy VET/02: Physiology	34	340	4	32	38	372
Characterizing	Subjects on animal production and on animal breeding an nutrition	AGR/17: General Animal Husbandry and Genetic Improvement AGR/18: Animal Feeding and Nutrition AGR/19: Special Animal Husbandry AGR/20: Animal Husbandry	20	260	8	64	28	324
	Subjects on infectious disease	VET/05: Infectious Diseases of domestic animals VET/06: Parasitology and Parasitic Diseases	20	260	5	40	25	300
	Subjects on pathological anatomy and on hygiene of food animal origin	VET/03: General and Special Pathology VET/04: Food Hygiene	30	390	5	40	35	430
	Subjects on veterinary clinics	VET/07: Veterinary Pharmacology and Toxicology VET/08: Veterinary Internal Medicine VET/09: Veterinary Surgery VET/10: Veterinary Obstetrics and Gynaecology	55	715	11	88	66	803
	Subject on informatics and statistic methods	INF/01: Informatics SECS-S/02: Statistics for the experimental and technological research.	5	40			5	40

* SDS = Scientific Disciplinary Sector. They are conventionally defined by a monograms as reported in table

*** PDP = Professional Didactic Pathway.*

(continue)

Table 4b - *continue*

Training activity	Disciplinary areas	Scientific Disciplinary Sectors* (SDS) involved in the training	"Core" subjects		PDP** (V year)		TOTAL	
			CFU	h	CFU	h	CFU	h
Similar or integrative		AGR//01 Rural Economy AGR/02 Agronomy and herbal growing. VET/05: Infectious diseases of domestic animals M-Fil/03: Moral Philosophy	12	120			12	120
Further practical training			30	750			30	750
Elective disciplines					15	375	15	375
Seminars					10	250	10	250
Foreign language			3	30			3	30
Final dissertation			9	225			9	225
TOTAL			**242**	**3322**	**58**	**889**	**300**	**4211**

* SDS = Scientific Disciplinary Sector. They are conventionally defined by codes as reported in table

*** PDP = Professional Didactic Pathway*

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

All decision on the allocation of the 25 hours per CFU assigned to the different subjects (Table 4.1b) between lectures/practical works and individual work as well as the balance between theoretical and practical teaching have been taken by the same consulting body engaged to set up the New curriculum and they have been approved by the ex-Faculty board.

Hours allocation to various subjects has been determined by the distribution of different activities in which students must be engaged and may vary depending on the board area of study, the discipline and the typology of the teaching.

As a general rule, the consulting team has decided to assign less theoretical teaching hours per CFU for basics subjects in comparison to vocational courses and even more hours per CFU are given to subjects with a higher practical content. It has also proceeded to not assign teaching hours for practical activities to some basics/similar or integrative subjects (e.g. physics, chemistry, molecular biology, veterinary bioethics etc.). Moreover, the work group has considered as highly strategic to assign the maximum hours (25 hours) to practical work performed in the professional training called "*tirocinio*" and to elective disciplines and seminars planned during the second training period of the Professionalising Didactic Paths (5ht year, see in the following). Finally, it has been also planned to allocate 8 hours to the characterizing subjects delivered during the first training period of Professionalizing Didactic Pathways (5ht year, see later on) as the arguments treated tackle specific aspects of subjects already learned by the students. Such allocation of the 25 hours per CFU, moreover, provides the student that have fallen behind in some subjects the needed home study time to retrieve them.

The organization of the 25 hours/CFU between teaching hours and individual work hours is shown in table 4c while the more precise balance between theoretical and practical teaching is presented in the following paragraphs (Tables 4d, and 4i).

Table 4c - 25 hours/CFU balance among lectures/practical work and individual work according the Teaching Regulation of Veterinary Medicine Degree of the University of Bari. Training activities are assigned based on the subject distribution defined by the MD 270 (see table 4b).

Training activity	Hours of in class training	Hours of home study
non-VET basic subjects	8	17
VET basic subjects Similar or Integrative subjects Foreign language	10	15
Characterizing subjects	13	12
PDP Characterizing subjects	8	17
Further practical training (*tirocinio*) Elective disciplines Seminars	25	0
Final dissertation	25*	

*the balance between practical and individual work depends on the topic and feature of the dissertation

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

As already stated, the present curriculum complies with the European standard rules, according the Directive 2005/36/EC. Besides the EU-listed subjects, however, some non EU-listed subjects have been included for a total of 14 CFU (271 hours). This didactic activity is devoted to supply basic knowledge on Informatics (16 hours), to improve the proficiency in standard and technical English (30 hours) and to prepare the final Dissertation. The percentage of non-EU listed subjects integrated to the EU-listed subject curriculum is about 7%.

4.1.1. POWER OF SUBJECTS AND TYPES OF TRAINING

4.1.1.1 Power of subject

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

As previously reported the Course of Veterinary Medicine of Bari is structured in 20 so-called two month terms (actually 6 weeks of in class lectures/practical works and 2-3 weeks lesson free for home study and to take exams) spread over 5 years.
The first two years (i.e. 8-two month term) mainly deal basic subjects, basic sciences, animal production and, to a lesser extent, clinical sciences included in the EU-listed subjects. Lectures and practical classes are organised to provide a preclinical and an initial training relevant to deal with the disciplines in the following years. Indeed, the third, fourth and fifth years includes lectures, practical works and clinical rotations in basic science, clinical sciences and food hygiene and public health, which have been organised to provide a clinical and a non-clinical education relevant to the practice of veterinary medicine.
During these periods the student is engaged in:

- "core" subjects mainly carried out during the first 4 years that account for the about 81% of the total amount of teaching hours;
- "elective" subjects that the students can select among three different educational pathways offered by the curriculum at the last year course and that account for the about 19% of the total amount of teaching hours;
- "obligatory extramural practical work" that students carry out at the 5th year within the Food Hygiene/Public health "core" subjects.

"CORE" SUBJECTS

The "core" subjects are represented by:

- 27 mono- or multi-disciplinary teaching courses (see table 4d and Annex 4.1) and related examinations;
- a specific practical training supervised activity called "*tirocinio*";
- an interview to verify the student skills in English language;
- the final dissertation that, usually, student prepares during the last two years of the course.

Mono/multi-disciplinary teaching courses (2317 hours)
A mono-disciplinary course has only one module and is assigned to one teacher who is responsible for its organization, delivers lectures and chairs the exam commission. In addition, other member of teaching staff may give a limited number of lectures/practical activities as teaching support to the main teachers, pending approval of the Department Council.
The multi-disciplinary courses are composed by 2 or more modules from different disciplinary areas and that are taught by more than one members of the teaching staff. Students are evaluated

by a final single examination at the end of teaching period, or by multiple in progress examinations, by a commission composed by the teachers responsible for the organization of each module and chaired by one of them according to a seniority priority.
During the educational week (i.e. from Monday to Friday) theoretical teaching is given during morning classes (form 8:30 a.m. to 12:30 a.m. or 1:30 p.m.) with the effective teaching hours lasting 50 minutes. Practical works are taken in the afternoon in the laboratories or at the Veterinary Teaching Hospital (until 6.30 p.m.) or at the structures operating in official agreement with the Veterinary Medicine Degree or that allow students and teachers admittance to their facilities following informal approaches looked after by the teaches themselves. (see Annex 4.2 for the 2014 year lesson timetable and Annex 4.3 and Annex 4.4 for the list of the structures or institutions involved in the veterinary student training).

Table 4d - New curriculum of the Veterinary Medicine Course of Bari - "Core" subjects (hours) given as mono/multi-disciplinary teaching courses during the years 1st to 4th.

1st year

Subjects		Theoretical training			Supervised practical training			Other	Total	Home study
COURSES	MODULES	*Lectures (A)*	*Seminars (B)*	*Self directed learning (C)*	*Laboratory and desk based work (D)*	*Non-clinical animal work (E)*	*Clinical training (F)*	*(G)*		
First two-month teachings										
ECONOMY AND STATISTICS	Applied Physics	16							16	34
	Informatics	10			6				16	34
	Statistics	18			6				24	51
	Rural Economics	30			10				40	60
ANATOMY 1	Histology and embryology	32			8				40	60
Second two-month teachings										
CHEMISTRY	General and Inorganic chemistry	32							32	68
BIOLOGY	Zoology	28			4				32	68
	Botany	16							16	34
ANATOMY 1	Anatomy of the domestic animals 1	28			6	6			40	60
Third two-month teachings										
BIOCHEMISTRY 1	Biochemistry of macromolecules	16							16	34
	Metabolic biochemistry	29			3				32	68
BIOCHEMISTRY 2	Molecular biology	22			**2**				24	51
	Biochemistry of foodstuff and residues	23			1				24	51
ANATOMY 2	Anatomy of the domestic animals 2	27			6	7			40	60
	Neuroanatomy	14			3	3			20	30
Fourth two-month teachings										
ANATOMY 2	Topographic anatomy	24				6			30	45
PHYSIOLOGY 1	Veterinary physiology 1	31			5	4			40	60
	Veterinary ethology	30				10			40	60
TOTAL		**426**			**60**	**36**			**522**	**928**

continue

2nd year

continue

Subjects		Theoretical training			Supervised practical training			Other	Total	Home study
COURSES	MODULES	*Lectures (A)*	*Seminars (B)*	*Self directed learning (C)*	*Laboratory and desk based work (D)*	*Non-clinical animal work (E)*	*Clinical training (F)*	*(G)*		
First two-month teachings										
PHYSIOLOGY 2	Veterinary physiology 2	40				10			50	75
	Veterinary *Endocrinology*	29			5	6			40	60
	Veterinary Bioethics	20							20	30
Second two-month teachings										
ANIMAL PRODUCTION 1	Morphofunctional evaluation	38			4	10			52	48
	Genetic improvement	50				15			65	60
FEEDING AND NUTRITION	Animal Nutrition	50			10	5			65	60
	Agronomy	15			5				20	30
Third two-month teachings										
VETERINARY MICROBIOLOGY AND IMMUNOLOGY	Veterinary Microbiology and Immunology	37		4	11				52	48
GENERAL PATHOLOGY	Veterinary General Pathology	52			5	8			65	60
Fourth two-month teachings										
ANIMAL PRODUCTION 2	Technology and hygiene of livestock animals	37				15			52	48
	Animal husbandry	20				6			26	24
PARASITOLOGY	Veterinary parasitology	30			9				39	36
	Parasitic disease	30			9				39	36
TOTAL		**448**		**4**	**58**	**75**			**585**	**615**

3rd year

Subjects		Theoretical training			Supervised practical training			Other	Total	Home study
COURSES	MODULES	*Lectures (A)*	*Seminars (B)*	*Self directed learning (C)*	*Laboratory and desk based work (D)*	*Non-clinical animal work (E)*	*Clinical training (F)*	*(G)*		
First two-month teaching										
VETERINARY PHARMACOLOGY AND TOXICOLOGY	Veterinary pharmacology	44			8				52	48
	Veterinary chemotherapy	35			4				39	36
	Veterinary toxicology	35			4				39	36
Second two-month teaching										
INFECTIOUS DISEASES 1	Bacterial diseases of animals	26			4	4	5		39	36
	Viral diseases of animals	26			4	4	5		39	36
VETERINARY SURGERY 1	Veterinary surgical pathology	40					12		52	48
	Surgical semiotics	16					10		26	24
	Radiology	16					10		26	24
Third two-month teaching										
INFECTIOUS DISEASES 2	Avian diseases	30			4	10	8		52	48
	Epidemiology, animal health and preventive veterinary medicine	30			8	2			40	60
FOOD SAFETY1	Hygiene and safety of milk, eggs and honey	26			9	4			39	36
	Meat processing technology	22				4			26	24
Fourth two-month teaching										
SPECIAL PATHOLOGY	Special veterinary pathology 1	30			5	4			39	36
	Special veterinary pathology 2	39			5	8			52	48
	Necropsy techniques	21	8			10			39	36
TOTAL		**436**	**8**		**55**	**50**	**50**	**0**	**599**	**576**

continue

4th year

Subjects		Theoretical training			Supervised practical training			Other	Total	Home study
COURSES	MODULES	*Lectures (A)*	*Seminars (B)*	*Self directed learning (C)*	*Laboratory and desk based work (D)*	*Non-clinical animal work (E)*	*Clinical training (F)*	*(G)*		
First two-month teaching										
FOOD SAFETY 2	Hygiene and safety control of meat and meat products	53			4	8			65	60
	Hygiene and safety control of fish and fishery products	26			6	7			39	36
	Hygiene and safety control of bivalve molluscs	20			2	4			26	24
Second two-month teaching										
SEMIOTICS AND INTERNAL PATHOLOGY	Internal pathology	40					12		52	48
	Medical semiotics	26					13		39	36
	Laboratory diagnostics	16			10				26	24
Third two-month teaching										
VETERINARY SURGERY 2	Veterinary surgery	50					15		65	60
	Surgical procedures	16					10		26	24
	Veterinary anaesthesiology	16					10		26	24
OBSTETRICS AND PATHOLOGY OF ANIMAL REPRODUCTION	Obstetrics	16					10		26	24
	Pathology of Animal Reproduction	26					13		39	36
Fourth two-month teaching										
INTERNAL MEDICINE	Internal Medicine	40					12		52	48
	Therapy	16					10		26	24
	Legal medicine	16			10				26	24
OBSTETRICS AND ANDROLOGY CLINIC	Andrology	16					10		26	24
	Obstetrics clinic	40					12		52	48
TOTAL		**433**			**32**	**19**	**127**	**0**	**611**	**564**
TOTAL HOURS FOR MONO/MULTI-DISCIPLINARY TEACHINGS		***1743***	***8***	***4***	***205***	***180***	***177***	***0***	***2317***	***2683***

The curriculum is structured in order to provide balanced curricular advance based on progressive difficulties of knowledge and skills. The curricular progression of the student is based on the principle of prerequisites (propaedeutical) to be respected, as established by the Course Teaching regulation. Propaedeutics are listed in Table 4.e.

Table 4e - List of the exams according their propaedeutical progression

EXAM	PROPAEDEUTIC EXAM
Biochemistry 1	Chemistry
Biochemistry 2	Biochemistry 1
Anatomy 2	Anatomy 1
Physiology 1	Biochemistry 2 Anatomy 2
Physiology 2	Physiology 1
Veterinary Microbiology and Immunology	Physiology 1
Animal Production 1	Anatomy 2
Animal Production 2	Animal Production 1
Nutrition and Feeding	Physiology 2
General Pathology	Physiology 2 Veterinary Microbiology and Immunology
Parasitology	General Pathology
Veterinary Pharmacology and Toxicology	General Pathology
Infectious Diseases 1	General Pathology
Infectious Diseases 2	Infectious Diseases 1
Veterinary Surgery 1	General Pathology
Food safety 2	General Pathology
Special Pathology	Infectious Diseases 1
Food safety 2	Food safety 1
Semiotics and Internal Pathology	Veterinary Pharmacology and Toxicology
Internal Medicine	Semiotics and Internal Pathology
Veterinary Surgery 2	Veterinary Surgery 1
Obstetrics and Pathology of Reproduction	General Pathology
Obstetrics and Andrologics Clinic	Obstetrics and Pathology of Reproduction Veterinary Pharmacology and Toxicology

Practical supervised activity ("*tirocinio*") (750 hours)

In order to comply with the MD 270 and to enable the students to perform hands-on work, a specific compulsory practical supervised training called "*tirocinio*" has been scheduled. The teaching method is characterised by a balanced practical workload, which allows students to learn and acquire, in a coordinated and progressive path, basic and specific skills in different professional veterinary field, which will be refined during the Professional Pathways scheduled at the 5th year.

This practical internship is considered of strategic importance for the training of veterinary medical students and it is compulsory to access to the qualifying examination required by the Italian law to practise the veterinary medicine private practice (*Esame di Stato*).

The "*tirocinio*" coordination is managed, according to the Tirocinio Regulation, by a Tirocinio Commission (see Chapter 2 - Organization) composed by a main coordinator (prof. Antonio Di Bello) and by the internship coordinators for each group of disciplines (Table 4f)

Students have to acquire 30 CFU of "*tirocinio*" corresponding overall to 750 hours of practical activity sheared in 6 main subjects as shown in table 4f.

Table 4f - Disciplines and didactic power of the "core" obligatory practical training ("*tirocinio*") for students at the Veterinary Medicine Degree of the University of Bari

	Subjects	Credits	Hours	*tirocinio* Coordinators	Requisites for admission
1	Avian Diseases (including rabbit and wild species)	1	25	Antonio Camarda	Students have to be regularly attended the 4th year course
2	Internal medicine and Prophylaxis	9	225	Donato de Caprariis	For night and weekend turns* students have to be regularly attended the 4th year course For daily turns* students have to be regularly attended the 5th year course
3 4	Veterinary Surgery Obstetrics Clinics and Andrology	10	250	Carmela Valastro Annalisa Rizzo	
5	Food Hygiene and Public Health	5	125	Elisabetta Bonerba	Students have to be regularly attended the 5th year course
6	Animal Production	5	125	Pasquale De Palo	Students have to be regularly attended the 3rd year course

* See further on and Table 4h

Professional courses are organised with both intramural (at the Veterinary Teaching Hospital or laboratories within each unit as well as off-house, see Annex 4.3 and Annex 4.4) or extramural activities.

The intramural practical hands-on training is performed under the supervision of permanent Teaching Staff specifically involved in this activity. They verify daily the presence of the students, as well as their involvement in the training activities, and certify the abilities acquired on the "Personal *Tirocinio* Logbook". As for clinical night and public holidays shifts, students are supervised by qualified practitioners specifically hired for this purpose.

Extramural activity is organised using a network of agreements with local practitioners, institutional partners (State Veterinary Officers), livestock farmers and food industry, thus allowing students to attend slaughterhouses, milk and food processing plants, fish markets, public health offices, private clinics, etc. The structures operating with the Veterinary Medicine Degree "*tirocinio*" extramural activities are quoted in Annex 4.3. Such list of structures is yearly revised.

The extramural training (external activity) is guaranteed by veterinary and non-veterinary tutors (graduated in Agronomy, Animal Production, Biology, etc.) but it is always carried out under the supervision of Faculty veterinarians. Students have to apply for admission to the extramural "*tirocinio*" except that for the Food Hygiene/Public Health training being this activity compulsory.

The *tirocinio* coordinator supplies students with the program of the learning activities that they are going to attend at the external structure (Individual Training Project) by itemizing the modalities for training, activities shall be performed, duties of the students and name of the external tutor supervisor. The tutor supervises the student learning progress, supplies with documentary evidences her/his daily attendance and activities and, at the end of the training period, draws up a synthetic report on the student activities.

The calendar of the practical internships is based on the rotation of groups of students (each composed from 5 to 10), depending on the specific group of discipline.
For Avian Diseases, Internal Medicine and Prophylaxis, Surgical Clinic and Ostetrics and Andrologics Clinic "tirocinio", students have to attend daytime turns (1 rota corresponding to about 6 hours) and night/weekend rota (1 rota corresponding to 12/15 hours). For Animal Production internship, 4 day, or 3 day training have been assigned to each CFU for intramural and extramural activities, respectively, whereas the Food Hygiene and Public Health "*tirocinio*" is performed only as extramural work. A tight schedule is given to the student when she/he asks for the enrolment to the different training activities and she/he is given the possibility to change the assigned group only for acceptable reasons. The working program for different subjects is summarised in table 4g.

Table 4g - Scheduled working for the different "tirocinio" training subjects.

Subjects	Turns*			Where the training is performed	Note
	Turns (n)		Hours		
Avian Diseases	Daytime	4	24	Intramural	Training cannot be performed during the scheduled teaching courses. Training period for each subjects have to be attend continuatively
Internal medicine and Prophylaxis	Daytime	12	72	Intramural	
Veterinary Surgery	Daytime	9	54	Intramural	
Obstetric Clinics and Andrology	Daytime	9	54	Intramural	
	Night and weekend	20/25	300	Intramural/extramural	none
Subjects	**Turns****			**Where the training is performed**	**Note**
	CFU		**Days**		
Animal Production	Daytime	5	20	Intramural	Training period for each subjects have to be attend continuatively
			15	Extramural	
Food Hygiene and Public Health	Daytime	5	15	Extramural	

* 1 rota = 8 h (daytime turns) or 12 h (night/weekend turns)
** 1 CFU = 3 days (extramural) or 4 days (intramural)

At the end of each subject practical activity, the responsible Coordinators draw up in the *Tirocinio* LogBook, the judgement on the student. The Logbook, fully drew up, is handed over to the Student's Secretariat where the student's record is upgraded with the 30 CFU acquired by the "*tirocinio*" practical supervised activities. Students who do not complete these practical activities are not allowed to complete their degree curriculum.

Property of the English language inquiry (30 hours)
The MD 270 do not envisage the inclusion of a regular course for the foreign language within the curriculum but it established that students must know an EU language and such knowledge have to be ascertained by an interview run by a competent Commission.
The curriculum of Veterinary Medicine Degree of Bari establishes that the students must know the English language at the First Certificate of English B2 level (Common European Framework of Reference for Language-CEFR). In general, the student English grounding comes from their high school education or from alternative courses attended at other educational institution.
However, to meet and pass the language interview, the students are assisted by a mother tongue lecturer (Mr. Anthony Green) who organises support courses and is present on the Campus one day a week to give assistance to the student English language improvement.

The judging Commission is composed by qualified representatives of teaching staff and by the lecturer and have to ratify the student eligibility. Three interview sessions by year are planned and the English language fitness is compulsory to enrol to the 5th year of the course..

Final dissertation ("thesis") (225 hours)
The thesis is an obligatory, non EU-listed subject and consists of a final exam before the student's graduation. Every year 4 thesis sessions are scheduled during which students present and discuss their final graduation thesis in front of the Degree Commission (*Commissione di Laurea*) chaired by a President and composed by at least 11 professors. The thesis is a structured experimental or bibliographic scientific work, independently prepared by the student under the supervision of a Professor (*Relatore*) in the specific scientific field. The Department of Veterinary Medicine Director designs a professor, called *Controrelatore*, who is committed to examining the thesis before the presentation. The final judgement is expressed out of 110, and includes the mean of all exam marks. When the student has a very high knowledge and competences, the *Relatore* can propose to the members of Degree Commission the honour (110/110 *cum laude*), which is assigned only in case of unanimity.

"ELECTIVE" SUBJECTS

As previously reported, the Veterinary Medicine Course has adopted a "tracking system", the so-called trident configuration, and to complete its training in Veterinary Medicine, each student has to choose among three educational pathways, at the last year of her/his curriculum (Professionalizing Didactic Path - PDP) (see figure 4):

- the Clinical Medicine of Companion Animals Path (coordinator prof. Antonio Crovace);
- the Food Producing Animals Path (coordinator prof. Raffaele Sciorsci);
- the Public Health an Food Safety Path (coordinator prof. Canio Buonavoglia).

The aim of PDP is to improve the students' theoretical knowledge and skills in an area of their specific interest. Moreover, the scattering of students enrolling to the 5th year (about 60-70 by year) in the three-prongs allows organising a considerable part of the practical activities (and basically all the clinical ones) in very small groups.
At the end of the 16th two mount training term (June/July of the IV year course) each student can freely choose among the three pathways provided that he has passed all the 2nd year exams plus the English interview (see Chapther 9 - Student Admission and Enrolment). The total number of teaching hours, as well as the subjects, gave to each student within each fork prong is the same but the power of the specific courses is different since it depends on how courses are structured to meet the purposes of each educational pathway.
Students apply for the PDP by indicating the "preferred" fork prongs in order of choice. Currently the minimum number of applicant per fork-prong has not been settled but, according to the most common vocational interests recorded among the students, a maximum of 50% of the total number of applicants is allocated to the Clinical Medicine of Companion Animals Path, whereas the 30% and the 20% are assigned to the Public Health an Food Safety Path and to the Food Producing Animals Path, respectively. The allocation of students into the three PDPs is awarded for merit according to a "rank" of the applicants based on the number of passed exams, the mean examination score and the year in which they are attending courses (in course, off course). Students that are not admitted to their 1st PDP choice are admitted to that they indicated as 2nd choice, in case of available place, and so on.

The PDP are organised in two learning periods as shown in table 4h.
During the 1st period (17th and 18th two months terms), the courses follow a traditional organization, that promotes a leading position to the practical works, and lectures/practical works on basic and characterising sciences are intended for special arguments closely related to the professionalizing aims of the specific PDP. The programs of the three different paths activated in the academic year 2013/2014 are reported in Annex 4.1. Students are required to follow the scheduled courses and, at the end of each two month term, to sit at a final exams, , consisting in a multiple choice questions test .
The PDP 2nd period training (19th and 20th two months term) is explicitly professional-oriented in its contents and it is organized on a totally practical workload. It envisages the involvement of several teachers belonging to the teaching staff and a number of properly recruited external qualified support staff (i.e. state veterinary officers, practitioners and representatives of veterinary professional associations with expertises in some specific areas), who contribute in the largest possible integrated way (e.g. with use of seminars, discussion of cases, sharing of practical experiences, etc.) to supply the student with profession-oriented skills. The practical activities are carried out in house (Veterinary Teaching Hospital, laboratories of the different units) and on outside premises under the guidance of the teachers and are recorded on a personal PDP Logbook (in preparation). Due to the wide-range of didactic opportunity that can arise, the program of the PDP 2nd period can undergoes to adjustments from year to year.
To complete the educational pathways chosen, during this second period, student can spend part of the scheduled CFU (till to 10 CFU) in outside public or private establishments. As already described for the extramural activities performed during the "*tirocinio*" training, individual agreements are signed with the outside locations (see Annex 4.3) and the external tutor is identified. The tutors are expected to organise and supervise the activities planned by the teachers in charge, verify attendance by student and sign the student PDP Logbook. A true exam to check the student learning is not envisaged for this last period of training but the skills and competences acquired will be certified by the attendance to the practical activities recorded on the PDP Logbook.
Curriculum hours in EU listed subjects offered and to be taken as Professionalizing Didactic Path (elective subjects) by the 5th year students are reported in table 4.3.

Table 4h - Curriculum hours offered and to be taken as electives during the 5th year course (Professionalizing Didactic Path - PDP).

Subject		Theoretical training			Supervised practical training			Other	Total	Home study
COURSES	MODULES	*Lectures (A)*	*Seminars (B)*	*Self directed learning (C)*	*Laboratory and desk based work (D)*	*Non-clinical animal work (E)*	*Clinical training (F)*	*(G)*		
First two-month teaching										
PROFESSIONAL-ORIENTED SUBJECTS 1	Applied anatomy	6				10			16	34
	Applied physiology	6				10			16	34
	Applied pathological anatomy	6				10			16	34
	Mycology	8			8				16	34
	Applied pharmaco-toxicology	6	4		6				16	34
	Applied genetics	6			6	4			16	34
	Animal feeding	6			10				16	34
	Animal production	6				10			16	34
	Animal husbandry	6				10			16	34
Second two-month teaching										
PROFESSIONAL-ORIENTED SUBJECTS 2	Food safety	4	4		4	12			24	51
	Infectious diseases	8	4		6		6		24	51
	Internal Medicine	8					16		24	51
	Surgery	8					16		24	51
	Obstetrics clinic	8					16		24	51
TOTAL		92	12		40	66	54	0	264	561
PROFESSIONAL-ORIENTED PRACTICAL WORKLOAD - Third/Fourth two-month teaching -										
Companion animals*	**Food producing animals***	**Public health and Food Safety***								
Clinical science	**Clinical science**	**Clinical science**								
Animal production	**Animal production**	**Animal production**	**-**	-	-	-	-	-	-	625	**-**
Food Hygiene and Public Health	**Food Hygiene and Public Health**	**Food Hygiene and Public Health**								
TOTAL			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**889**	**561**

*Due to the different purpose of each PDP, the allocation of hours to the different types of training is not the same and the categories B, C, D, E, F and G may be differently Represented according to the educational pathway.

4.1.1.2 TYPES OF TRAINING

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

The terminology reported in the EAEVE SOPs has been carefully considered when drafting the text and the tables in this Chapter.

4.1.1.2.1 Theoretical training

Lectures convey theoretical knowledge. Lectures are given to an entire or partial annual intake of students. Teaching may be with or without the use of teaching aids or of demonstration animals or specimens. The essential characteristic is that there is no active involvement of the students in the material discussed. They listen and do not handle.
Seminars (sometimes called tutorials or supervised group work) are teaching sessions directed towards a smaller group of students during which they work on their own, or as a team, on part of the theory, prepared from manuscript notes, pied documents, articles and bibliographic references. Information is illustrated and knowledge extended by the presentation of audio-visual material, exercises, discussions and, if possible, case work.
Self directed learning are sessions of individual students making use of defined teaching material provided by the Faculty (eg e-learning)

4.1.1.2.2 Supervised practical training

Laboratory and desk based work. Includes teaching sessions where students themselves actively perform laboratory experiments, use microscopes for the examination of histological or pathological specimens. It also includes work on documents and idea-formulation without the handling of animals, organs, objects or products (e.g. essay work, clinical case studies, handling of herd-health monitoring programmes, risk-assessment computer-aided exercises).
Non-clinical animal work. These are teaching sessions where students themselves work on normal animals, on objects, products, carcasses etc. (e.g. animal husbandry, ante mortem and post mortem inspection, food hygiene, etc.) and perform dissection or necropsy.
Clinical work. These are strictly hands-on procedures by student which include work on animals in a clinical environment, on organs and clinical subjects including individual patients and herds, making use of the relevant diagnostic data. Surgery or propaedeutical hands-on work on organ systems on cadavers to practice clinical techniques are also classified as clinical work.

The total number of hours scheduled in the New curriculum of the Veterinary Medicine Course, and distributed in theoretical or supervised practical works as reported by the EAEVE SOPs, are quoted in tables 4d and 4i. These tables, therefore, shown the total number of teaching hours provided to each student in a given academic year excepted the hours spent in supervised practical activity ("tirocinio", 750 hours) and to prepare the English interview (30 hours) and the final dissertation (225 hours)

4.1.2 UNDERGRADUATE CURRICULUM FOLLOWED BY ALL STUDENTS

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

In Table 4.1 the curriculum hours taken by all students include the training hours carried out at the last year course as elective subjects (Professionalizing Didactic Pathways). In fact, as previously stated, despite the different organization of the different educational pathways the total number of teaching hours gave to each student is the same. A more detailed account of the curriculum hours offered, and to be taken, by the students as "core" or "elective" subjects is related in tables 4.2 and 4.3 (4.3a), respectively.
In general the student spends the hours devoted to prepare the final Dissertation over the last two years of the training course. For this reasons these hours are included in-between the fourth and fifth year but the self directed learning for this purpose can be start even before (see Table 4.1).
The curriculum hours devoted to the English language improvement, moreover, are included at the fourth year as the students have to pass the English interview to enrol at the last year course. However the English interview can be carried out starting from the firs year.

Table 4.1 - General table of curriculum-hours taken by all students

Year	HOURS OF TRAINING							
	Theoretical training		Supervised practical training				Other	Total
	Lectures (A)	*Seminars* (B)	*Self directed learning* (C)	*Laboratory and desk based work* (D)	*Non-clinical animal work* (E)	*Clinical training* (F)	(G)	
First	426	-	-	60	36	-	-	522
Second	448	-	4	58	75	-	-	585
Third	436	8	-	55	50	50	-	599
Fourth	433	-	125*	62**	19	252[a]	-	891
Fifth	92	12	175*	115	191	1029 [b, c, d]	-	1614
TOTAL	**1835**	**20**	**304**	**350**	**371**	**1331**	**-**	**4211**

* Including self directed learning to prepare the final dissertation (total 225 hours)
** Including English language interview preparation (30 hours)
[a] Including Animal Production "*tirocinio" (125 hours)*
[b, c, d] Including Avian disease (25 hours), Food Hygiene (125 hours) and Clinics (475 hours) "*tirocinio"*

The list of subject "core" of the disciplines included in the New curriculum of the Veterinary Medicine Degree of Bari (see Table 4.0) are reported in Table 4.2, according to the subject division set by the EU directive 2005/36.
The same division to the subjects in table 4i for the three Professionalizing Didactic paths (PDP) is reported in table 4.3. Despite the inherent "elective" nature of these tracks (i.e. this is optional for students) and the professionalising-oriented nature of the topics taught, the total number of hours and the disciplines included are the same in each PDP. Therefore the data quoted in tables 4.3 (PDPs 1st period) and 4.3a (PDPs 2nd period) are representative of the teaching load given to each students irrespective of the chosen path.

However, as already said, based on the arising didactic opportunities, the program of the PDP 2nd period can undergo to adjustments from year to year. Therefore, the exact allotment of hours to the single subjects is non practicable and the average hours for each type of training is summarised in table 4.3a.

Table 4.2 - Curriculum hours in EU-listed subjects taken by each student (continue)

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures (A)	*Seminars (B)*	*Self directed learning (C)*	*Laboratory and desk based work (D)*	*Non-clinical animal work (E)*	*Clinical training (F)*	*(G)*	
1. Basic subjects								
a) Physics	16	-	-	-	-	-	-	**16**
b) Chemistry	32	-	-	-	-	-	-	**32**
c) Animal biology	24	-	-	-	4	-	-	**28**
d) Plant biology	16	-	-	-	-	-	-	**16**
e) Biomathematics	18	-	-	6	-	-	-	**24**
1. Total	**106**	0	0	**6**	4	0	0	**116**

Table 4.2- Curriculum hours in EU-listed subjects taken by each student (continue)

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures (A)	*Seminars (B)*	*Self directed learning (C)*	*Laboratory and desk based work (D)*	*Non-clinical animal work (E)*	*Clinical training (F)*	*(G)*	
2. Basic sciences								
a) Anatomy (incl. histology and embryology)	125	-	-	23	22	-	-	**170**
b) Physiology	100	-	-	10	20	-	-	**130**
c) Biochemistry, cellular and molecular biology	90	-	-	6	-	-	-	**96**
d) Genetics (incl. molecular genetics)*	14	-	-	-	-	-	-	**14**
e) Pharmacology and pharmacy	79	-	-	12	-	-	-	**91**
f) Toxicology (incl. environmental pollution)	35	-	-	4	-	-	-	**39**
g) Microbiology (incl. virology , mycology and bacteriology)**	16	-	4	6	-	-	-	**26**
h) Immunology	20	-	-	6	-	-	-	**26**
i) Epidemiology (incl. scientific and technical information and documentation methods)	28	-	-	6	2	-	-	**36**
j) Professional ethics ***	24	-	-	-	-	-	-	**25**
2. Total	**531**	**0**	**4**	**73**	**44**	**0**	**0**	**652**

* subject treated in "Zoology" and "Genetic improvement of farm animals" modules (see table 4d)
** mycology is a subject treated at the V year course (see Table 4i)
*** subject treated in " Veterinary bioethics " and "Legal medicine" modules (see table 4d)

Table 4.2- Curriculum hours in EU-listed subjects taken by each student (continue)

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures (A)	*Seminars (B)*	*Self directed learning (C)*	*Laboratory and desk based work (D)*	*Non-clinical animal work (E)*	*Clinical training (F)*	*(G)*	
3.Clinical science								
a) Obstetrics	72	-	-	30	-	147	-	**249**
b) Pathology (incl. pathological anatomy)	141	8	-	15	30	-	-	**195**
c) Parasitology	54	-	-	8	-	3	-	**65**
d) Clinical medicine	202	-	-	-	-	211	-	**413**
e) Clinical lectures on various domestic animal, poultry and other animal species	24	-	-	5	15	19	-	**63**
f) Field veterinary medicine (ambulatory clinics)		-	-	-	-	30	-	**30**
g) Preventive Medicine*	12	-	-	6	-	10	-	**28**
h) Diagnostic imaging (incl. radiology)	16	-	-	-	-	40	-	**56**
i) Reproduction and reproductive disorders	26	-	-	30	-	78	-	**134**
j) Veterinary state medicine and public health	45	-	-	5	6	6	-	**62**
k) Veterinary legislation and forensic medicine	10	-	-	8	-	-	-	**18**
l) Therapeutics	16	-	-	0	-	25	-	**41**
m) Propaedeutics (incl. laboratory diagnostic methods)	58	-	-	10	-	43	-	**111**
3. Total	**677**	**8**	**0**	**117**	**51**	**612**	**0**	**1465**

* this subject is differently treated during the teaching of " Farm Animal Breeding Techniques and Farm Hygiene ", "Animal husbandry", "Veterinary parasitology", "Bacterial diseases of Animals", "Viral diseases of Animals", "Avian pathology" (see table 4d) according to the different topics.

Table 4.2- Curriculum hours in EU-listed subjects taken by each student (continue)

Subject	Theoretical training			Supervised practical training			Other*	Total
	Lectures (A)	*Seminars (B)*	*Self directed learning (C)*	*Laboratory and desk based work (D)*	*Non-clinical animal work (E)*	*Clinical training (F)*	*(G)*	
4. Animal Production			-					
a) Animal production	78	-	-	19	70	-	-	**167**
b) Animal nutrition	50	-	-	20	10	-	-	**80**
c) Agronomy	15	-	-	5	-	-	-	**20**
d) Rural economics	30	-	-	10	-	-	-	**40**
e) Animal husbandry	44	-	-	-	65	-	-	**109**
f) Veterinary hygiene**	20	-	-	6	8	-	-	**34**
g) Animal ethology and protection	30	-	-	-	10		-	**40**
4. Total	**267**	**0**	**0**	**60**	**163**	**0**	**0**	**490**
5. Food Hygiene Public Health								
a) Inspection, and control of animal foodstuffs or foodstuffs of animal origin and the respective feedstuff production unit	40	1	-	10	6	-	75	**132**
b) Food hygiene and technology	30	1	-	3	3	-	25	**62**
c) Food science including legislation	24	-	-	-		-	10	**34**
d) Practical work (including practical work in places where slaughtering and processing of foodstuffs takes place)	35	-	-	22	16	-	15	**88**
5. Total	**129**	**2**	**0**	**35**	**25**	**0**	**125**	**316**

* extramural works

** this subject is differently treated during the teaching of " Farm Animal Breeding Techniques and Farm Hygiene ", "Animal husbandry",, "Veterinary parasitology", "Bacterial disease of Animals", "Viral disease of Animals", "Avian pathology" (see table 4d) according to the different topics.

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

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures (A)	*Seminars (B)*	*Self directed learning (C)*	*Laboratory and desk based work (D)*	*Non-clinical animal work (E)*	*Clinical training (F)*	*(G)*	
6. Professional knowledge								
a) Practice management*	-	-	-	-	-	-	-	**-**
b) Veterinary certification and report writing **	6	-	-	6	-	-	-	**12**
c) Career planning and opportunities ***	-	-	-	-	-	-	-	**-**
6. Total	**6**	**0**	**0**	**6**	**0**	**0**	**0**	**12**

* this subject is treated during the last period of the PDP training in a targeted course yearly organized (see further on for more details)
**these subjects are differently treated during the teaching of "Epidemiology and veterinary legislation", "Foodstuff safety 1 and 2" and "Legal Medicine" "(see table 4d), according to the different topics
***these subjects are treated during the last period of the PDP training in targeted seminars ran by expressly invited Presidents (or their delegates) of the Veterinary Professional Board of different Apulia Provinces.

Table 4.2a- This table summarises the total number of curriculum hours in EU-listed subjects, taken as "core" subjects all student at the Veterinary Medicine Degree of the University of Bari.

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures *(A)*	*Seminars* *(B)*	*Self directed learning* *(C)*	*Laboratory and desk based work* *(D)*	*Non-clinical animal work (E)*	*Clinical training* *(F)*	*(G)*	
1. Basic subjects	106	0	0	6	4	0	0	116
2. Basic sciences	531	0	4	73	44	0	0	652
3.Clinical science	677	8	0	117	51	612	0	1465
4. Animal Production	267	0	0	60	163	0	0	490
5. Food Hygiene Public Health	129	2	0	35	25	0	125	316
6. Professional knowledge	6	0	0	6	0	0	0	12
6. Total	**1716**	**10**	**4**	**298**	**287**	**611**	**125**	**3051**

Training in Practice Management - To comply the EU requirements in practice management, a targeted course restricted to the 5th years students, is organized with annual rate.
The aim of this training is to supply the students with useful information on the business management in order to apply to the needs of the veterinary practice. This is carried out in partnership with the local veterinary professional boards and with the Italian Society of Veterinary Management and it is organised by the agency of professor Antonio Di Bello (also President of the Veterinary Professional Board of Taranto and component of the permanent staff of the Veterinary Medicine Degree).
The course takes place over two days (about 14 hours) and is run by qualified teachers with expertises in this specific area. The principal discussed topics are:

- Principles on marketing and possible implementation in the medicine area.
- How to build a competitive veterinary business.
- How to successfully communicate with the costumer.
- How to successfully communicate with the outside world: guideline to be effectively present on web.
- The essential computing systems for the management of the veterinary business: office suite, enterprise resource planning (e.r.p.) systems.
- Data collection and management.
- Planning of a base balance.
- How to formulate and propose the prices.
- Main and most common management mistakes.

The Veterinary Medicine Department, moreover, has selected a PhD student (dr. Michele Colamonaco) to be specifically trained in practice management, to exploit its acquired knowledge for the student training in this subject.

Table 4.3- Curriculum hours in EU-listed subjects offered and to be taken as "electives": 1st period of the Professionalising Didactic Pathways (5th year, 17th-18th tow month period of training)

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group.
	Lectures (A)	*Seminars* (B)	*Self directed learning* (C)	*Laboratory and desk based work* (D)	*Non-clinical animal work* (E)	*Clinical training* (F)	(G)	
2. Basic sciences								
a) Anatomy (incl. histology and embryology)	6	-	-	-	10	-	-	**16**
b) Physiology	6	-	-	-	10	-	-	**16**
d) Genetics (incl. molecular genetics)	6		-	6	4	-	-	**16**
e) Pharmacology and pharmacy	3	-	-	-	-	-	-	**3**
f) Toxicology (incl. environmental pollution)	3	4	-	6	-	-	-	**13**
g) Microbiology (incl. virology, mycology and bacteriology)*	8	-	-	8	-	-	-	**16**
2. Total	**32**	**4**	**0**	**20**	**24**	**0**	**0**	**80**
3.Clinical science								
a) Obstetrics	8	-	-	-	-	16	-	**24**
b) Pathology (incl. pathological anatomy)	6	-	-	-	10	-	-	**16**
d) Clinical medicine	16	-	-	-	-	32	-	**48**
j) Veterinary state medicine and public health	8	4	-	6	-	6	-	**24**
3. Total	**38**	**4**	**0**	**6**	**10**	**54**		**112**
4. Animal Production								
a) Animal production	6				10	-	-	**16**
b) Animal nutrition	6			10		-	-	**16**
e) Animal husbandry	6				10	-	-	**16**
4. Total	**18**	**0**	**0**	**10**	**20**	**0**	**0**	**48**
5. Food Hygiene Public Health								
a) Inspection, and control of animal foodstuffs or foodstuffs of animal origin and the respective feedstuff production unit	2	2	-	8	4	-	-	**16**
b) Food hygiene and technology	2	2	-	-	-	-	-	**4**
d) Practical work (including practical work in places where slaughtering and processing of foodstuffs takes place)	-	-	-	4	-	-	-	**4**
5. Total	**4**	**4**	**0**	**4**	**12**	**0**	**0**	**24**

* Virology and Bacteriology are subjects treated at the III year course (see table 4d)

Table 4.3a- Curriculum hours in EU-listed subjects offered and to be taken as "electives": 2nd period of the Professionalising Didactic Pathways (5th year, 18th-20th two month period of training)

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	*Seminars (B)*	*Self directed learning (C)*	*Laboratory and desk based work (D)*	*Non-clinical animal work (E)*	*Clinical training (F)*	*(G)*	
CLINICAL MEDICINE OF COMPANION ANIMALS EDUCATIONAL PATHWAY								
Clinical science*		5	50	60	50	350	-	**515**
Animal Production		5	15	30	50	-	-	**100**
Food Hygiene Public Health		-	-	-	10	-	-	**10**
Total		**10**	**65**	**90**	**110**	**350**	**0**	**625**
FOOD PRODUCING ANIMALS EDUCATIONAL PATHWAY								
Clinical science*		-	-	30	20	150	-	200
Animal Production		5	15	100	230	-	-	350
Food Hygiene Public Health		-	-	25	50	-	-	75
Total		**5**	**15**	**155**	**300**	**150**	**0**	**625**
PUBLIC HEALTH AND FOOD SAFETY EDUCATIONAL PATHWAY								
Clinical science*		5	15	50	100	30	-	**200**
Animal Production		5	10	20	40	-	-	**75**
Food Hygiene Public Health		5	45	100	200	-	-	**350**
Total		**15**	**70**	**170**	**340**	**30**	**0**	**625**

* including 8 hours in " Career planning and opportunities" and 12 hours in "Practice management"

In table 4.4 are quoted the curriculum hours in subjects not listed in Table 4.2 (no EU listed subjects) and to be taken by each student.

Table 4.4 - Curriculum hours in subjects not listed in table 4.2 to be taken by each student

Year	HOURS OF TRAINING							
	Theoretical training		Supervised practical training				Other	Total
	Lectures (A)	*Seminars* (B)	*Self directed learning* (C)	*Laboratory and desk based work* (D)	*Non-clinical animal work* (E)	*Clinical training* (F)	(G)	
Informatics	10	-	-	6	-	-	-	16
English (ALTE B2 level)	-	-	30		-	-	-	30
Final Dissertation work*	-	-	*	*	*	*	-	225
TOTAL								**271**

* all categories C, D, E and F may be (or not to be) valid and can be differently represented according to the work topic.

4.1.3 FURTHER INFORMATION ON THE CURRICULUM

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

The most innovative aspects of the new framework of the Veterinary Medicine Degree teaching programme deal with:

- teaching activity organized in short condensed two month terms including lectures-free weeks dedicated to take exams;
- assignment of last year course to three optional tracks in vocational professionalizing practical activities;
- introduction of obligatory extramural works in Food Safety and Public Health and the effort to sing agreement with public and private institution which provides students with valuable learning experience in different field of veterinary practice (optional extramural work);
- adoption of a new tool to certify the basic "day-one skill" acquired by the student during his career, i.e. the Student LogBook (see Chapter 5 - Teaching and learning: quality and evaluation).

The two months organization of the scheduled courses appears a suitable strategy to force students in committing themselves to study from the very beginning of the courses focusing their attention on each subject at a time. This track allows the student to study step by step the treated arguments during the teaching period and to sit for the exam immediately after the end of the lectures. Moreover the daily close relationship between students and teaching staff, allows the teachers to identify the less performing students, to improve the student's educational deficiencies and to help the students progress with their study (see also Chapter 9 - Student Admission and Enrolment). Even if it is so far early to verify the results of this organization, we are confident that such compacted way to offer the education will have a positive impact to lower the time the students need to complete their curricular requirement and to graduate.

The second innovative aspect of the teaching program, i.e. the trident curriculum organization, aims to give additional knowledge vocational-oriented on completion of the whole training.

Therefore, students shall attend a number of vocational professionalizing disciplines that will provide her/him a timely full immersion in profession-oriented practical activities. In particular, the Food Safety Path was mainly designed with the aim to give students an opportunity to become familiar with public health aspects of veterinary profession that are generally outside the specific/emotional motivations leading to enrol at the Veterinary Medicine Degree (i.e. being a companion animal or horse veterinarian).
The effort made to promote the extramural activities, moreover, is considered of particularly important for the reasons itemised in the following: a) it exposes students to the professional reality; b) it lets the students practice procedures which are relevant for acquiring day-one skills; c) it allows students to perform professional activity in an integrated manner; d) it introduces the student into the country's job opportunities.
Finally, the introduction of a booklet dedicate to certify step by step the basic skills and competences acquired by students during their whole training has the purpose to invest them with a responsibility to complete their own training and supplies an useful tool to monitor the acquisition of basal skills from each student.

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

All activities, which are included in tables 4.2 and 4.3 must be attended by the students to a rate equal or superior to 60% both in case of theoretical and practical parts with the only remarkable exception for the attendance to the "*tirocinio*" practical training that is compulsory at the 100% rate.
Before the beginning of each course, the teachers are provided with a list of enrolled students. The student participation to theoretical and practical classes is checked by the teacher who requires the students to sign an "attendance register" in the classroom at the end of each lesson or practice. The teacher, immediately after the end of its course, has to draw up a written list of students who have complied with the requirements of attendance and has to certify the student attendance by signing an "attendance certification". The certificate of attendance is essential for student to sit the exam. The attendance to all course scheduled in a given year, moreover, is compulsory to enrol to the following year. The student who has not obtained the certificate of attendance must enrol as "repeating" at the same year (see Chapter 9 - Student admission and enrolment).
During the "*tirocinio*" or Professionalising Didactic Pathways activities the students keep their dedicate LogBooks indicating the type of activity and the signature of the supervisor for each activity, as previously described.

Please provide specific information on the practical clinical training; If clinical training is be provided through obligatory clinical rotations in different areas, please give an outline description of how this is structured, in terms of:
- are such rotations a structured part of the training given to all undergraduate students?
- the total number of days or weeks of such rotations
- the year(s) in which they occur
- the different areas covered and the time spent in each area;
- whether attendance is full-time, for part of the day, and/or other (e.g. based on case needs)
- the activities and case responsibilities that students are expected to undertake
- the group sizes in the clinical rotations

Clinical rotation is an obligatory, full time or part of the day, intramural and extramural, student standard practice. All undergraduate students are involved in clinical rotations which are scheduled for the practical supervised activities ("*tirocinio*") to be carried out at the 4th-5th year course and in clinical rotation which are scheduled in the latter half of the Professionalizing Didactic Path (5th year) (see previous paragraph).
The clinical activities to which the students are involved in are carried out at the Veterinary Teaching Hospital during the regular activity of the clinics or at the Emergency and Hospitalization Unit.

1) Rotations at the Veterinary Teaching Hospital
These clinical activities are not directly connected to any course, but they form part of the obligatory clinical activity that the student carried out during the 4th and 5th year of the course. Rotations are organized to allow groups of 6 – 7 students to sped the scheduled hours in the surgical, medical and obstetric activities. The attendance to rota can commit the student full time (12 hour, i.e. 2 consecutive rota) or for part of the day (6 hours, i.e. 1 rota) depend on the case need. Students are directly involved in each activity for both large and small animals: consulting rooms (medical, surgical and obstetric), surgical rooms, diagnostic imaging rooms, clinical diagnostic laboratory, anesthesia service. During their activity students are requested to directly manage the cases throughout the clinical examination, diagnostic, surgery, etc., always under the supervision of a clinician teacher belonging to the academic staff.
The activities performed by each student are recorded on the personal "*Tirocinio*" LogBook as already described in the dedicated paragraph.

2) Rotations at the Emergency and Hospitalization unit of the Veterinary Teaching Hospital
Also these hours are not directly related with any individual course but are part of the obligatory curriculum of the student. For these practical clinical training rotations are organized to allow students to acquire hands-on experience in the management of the emergency cases and to provide the care for the hospitalized patients, both companion and large animals.
Students are requested to sped either day or night time or week end or public holidays 12-15 hours rota in groups of 4-5.
All these activities are performed under the supervision of the teaching staff on duty at the aforementioned units and of qualified practitioners specifically hired for night time, week end and public holidays rota.
The activities performed by each student are recorded on the personal "*Tirocinio*" LogBook as already described in the dedicated paragraph.

3) Rotations performed during Professionalizing Didactic Path (clinical “self-oriented” activity)
This clinical practical activity is part of the training offered at the last year of the course when students chose between a specialized training in the clinic of large or small animals or in Food Hygiene and Public Health. Both for large and small animals clinic the students rotate in groups of 15 -20 people each, among medicine, surgery and obstetric. These teaching hours are devoted to be exclusively practical and students are thought in more specialized clinical activities compared to those performed in the regular course. Students are always under the supervision of a teacher belonging to the permanent teaching staff which can be assisted by technicians and/or PhD Students.
The activities performed by each student are recorded on the personal PDP LogBook as already described in the dedicated paragraph.

Beside the above-mentioned clinical rotation system that is compulsory for all undergraduated students, the clinical staff offers specific training opportunity for the students that want to deal in depth with specific activities in a clinical field (i.e. surgery, obstetrics, internal medicine, diagnostic imaging, anesthesia etc.) on volunteer base. Students (named “intern students”) are usually under the guidance of a faculty teacher which will be also responsible for the assistance in the ideation, development and realization of the thesis project. Intern students are fully involved in the regular activity of the clinics, supervised by the clinicians on duty and scheduled weekly to attend different clinical works. Intern student acquire specific clinical competences like handling and assistance to the animals, case discussion, interaction with the owners, assistance to consultation and surgery, management of the anesthesia, etc. Students may also be involved in clinical studies as part of their thesis project. Moreover seminars, case discussion rounds and journal clubs are regularly (weakly) organized by the clinicians. In some circumstances activities are performed outside the campus (e.g. mobile clinic).

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

Starting from the 2nd year course, students experience the first practical approach to the healthy animals during the course of Physiology (“Dog Lab”, see Chapter 7 - Animals and teaching materials of animal origin) and Animal Production and are trained on the approach and handling of animals.
However, student are involved in preliminary actual clinical exercise starting from the 3rd year course when they attend the clinical practical works scheduled for the Infectious Diseases, Avian Diseases and Veterinary Surgery 1 subjects. These preliminary clinical activities continue during the 4th course year ("core" subjects in Internal Medicine, Veterinary Surgery and Obstetric Clinics) and constitute the run-up to the following clinical rotations
To perform this training, the students are divided in groups (from 8 to 20 students per group depending on the topic of the practical training) and are trained by teachers with the support of technicians, post-docs and PhD students
Most of these clinical exercises are performed at the Veterinary Teaching Hospital, and consist in assisting at consultations, diagnostic, surgical an therapeutic procedures; part of these hands-on activities deal with familiarization with instruments and basic technique regularly used in clinical procedures (i.e. scrubbing-in, patients restriction, sutures on phantoms, x-rays etc).

Part of these activities are also performed in the Isolation Unit of the Animal Hospital and consists of a clinical visit of healthy and unhealthy animals with the aim to describe and recognise the clinical signs of the different infectious diseases and on the good procedures of sampling including the choice of the sample, transport media and delivery of the samples to the diagnostic laboratory.
The preliminary clinical exercises performed during the courses scheduled at the 3rd and 4thyear are also carried out outside the Vet-campus at the farms, kennels and slaughterhouses quoted in Annexes 4.3 and 4.4.

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

During the rotations at the Emergency and hospitalization services at VTH, the students assist, discuss and directly participate to all the procedures need to treat emergency cases (triage), standard hospitalization (grooming, therapies, bandaging etc) or Intensive care procedures. The students assist clinical staff, responsible of the cases, also during owner's case discussion, dismissing instruction and follow-ups.

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

There is a mobile clinic available for field medicine on large animals, in particular bovine, small ruminants, equine and swine, poultry and wild birds and for clinical service at municipal kennels. The mobile clinic operates in collaboration with local practitioners in a number of farms routinely visited (see Annex 4.3 and Annex 4.4), one day a week with teachers of the clinics and Infectious, parasitic and avian diseases Units and student. Moreover the mobile clinic is also available for on call emergency from 8:00 AM to 6 : 00 PM. The students of the last academic year and those attending the daytime *tirocinio* participate routinely in all practice aspects. Moreover the mobile clinic is available for the students of the 3th and 4th year for the field activities as part of some specific disciplines (reproduction, surgery, internal medicine, infectious disease, etc). Students actively take part to the clinic examination of large animals, in particular for the obstetric-gynaecological management of the animals and the herd management. They discuss with the teachers the diagnoses and the therapy and they also perform surgical interventions under the tutor's supervision and guide.
The mobile clinic is arranged in the way that student are transported in the farm with the Opel Vivaro minibus (9 seats) used specifically for this purpose, or in case of a larger number of students is expected to be involved, more capacious buses are rent by a local company. The mobile clinic is provided with portable equipment necessary for clinical examination, surgery and anaesthesia for medical gynecological and surgical cases. For these activities students are covered by the regular accident insurance of the University.

4.1.4 OBLIGATORY EXTRAMURAL WORK

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

The obligatory extramural works scheduled for the student of the Veterinary Medicine Degree of the University of Bari are carried out in Veterinary Food Hygiene/Public Health during the practical supervised activities ("tirocinio", see Table 4.2 -column "other").
There are no scheduled obligatory extramural works for other training subjects (i.e. Animal Productions, Avian Diseases, and Clinic activities) but students can choose to perform non-clinical or clinical extra-mural activities as part of their "tirocinio" or to complete their educational pathways during the 5th year of training (Professionalising Didactic Pathway - PDP). Nevertheless this type of training is particularly demanded by students and boosted by the teachers.
A number of agreement exists with public and private institution (slaughterhouse or food industries, production animal farms, recovery centre for the wild fauna, equine breeding and reproduction centres, etc.) or public institution as the Regional units of the National Sanitary System (ASL) (see Annex 4.3 and Annex 4.4). The latter institutions are organised in three functional specialized areas and the so called "area B" and "area C" are run by Official Veterinarians whose daily activity is fully consistent with the objective of both Food Hygiene/Public Health, and Animal Productions subjects. Agreements have also signed with some extra-regional institutions to make the students non-resident in Apulia attendance to extramural work easier.
Each extra-mural work period has to be authorized and scheduled by a teacher belonging to the Veterinary Course Academic staff. A selected external tutor is up to organized the student's schedule and verify their attendance.
Agreements have three years deadlines and are automatically renewed upon expiry unless explicit cancellation by one of the parts.

Table 4.5 - Obligatory extra-mural work that students must undertake as part of their course

NATURE OF WORK	MINIMUM PERIOD		MAXIMUN PERIOD		Year in which work is carried out
	weeks	% of total study time*	weeks	% of total study time*	
Practical training in Food Hygiene/Public Health	3	3	3	3	5th

*total n° hours of veterinary curriculum

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

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

The training in Food Hygiene and Public Health envisages a total of 340 hours provided to all students throughout the III-V year of the curriculum. This includes 75 hours of practical training that can be performed at lecture hall, at laboratories of the of Food Safety Unit of the Department of Veterinary Medicine, at local slaughterhouses and at a variety of outside plants, and they include also 125 hours of extramural works. Moreover, a practical training is offered during the second period of the three professionalising tracks scheduled at the 5th year (Clinical Medicine of Companion animals: 10 hours, Food Producing animals: 75 hours and Food Safety and Public Health: 350 hours).

Except for extramural works (see previous paragraph) members of teaching staff are present at each practical session that is performed usually in groups of 8-10 students except for visits to outside plants, which are organized in groups of 20-25 students.

Practical intra-mural works performed outside can be carried out at institutions that has signed regular agreement with the Department (see Annex 4.3) or at private plants on the basis of informal bilateral understandings attained by the teachers themselves (see Annex 4.4).

Through the official agreements and the interpersonal relations with the management of plants or the official veterinaries, the students have regular access to several types of outside plants an visit approximately one plants in each type here below listed (about 6-8 visits):

- Milk and dairy products
- Meet products
- Collective catering services
- Wholesale markets (including fish market)
- Frozen products storage plants
- Slaughterhouse and cutting plants
- Eggs and product thereof
- Large-scale retail trade

During this professional training student are involved in practical sessions dealing with:

- ante-mortem inspection: identification of animals and official checking of paperwork, evaluation of relevant food chain information, animal welfare, inspection of stunning and slaughtering procedures.
- post-mortem inspection: inspection and monitoring of cutting and boning operation of the carcasses, visual inspection of external surfaces and additional inspection of carcasses and waste products, specified hazardous material and other animal by-products, monitoring of removal, separation and labelling of products in batches, collection and referral of samples to the competent laboratory, laboratory diagnosis and monitoring for notifiable diseases in slaughterhouses, monitoring of the cold chain for fresh meat, recording activities in slaughterhouse logbook bureaucratic documents filling.
- identification of seawater animal species.
- freshness evaluation and inspection of seafood for macroparasites.

- HACCP.
- Audits.
- sampling to investigate food safety.
- sampling to investigate conformity of working space to legislation.
- report writing.
- milk and dairy products technology and inspection.
- meat and meat products technology and inspection food producing labelling.
- sanitary inspection of restaurants and catering establishments.

Within the purview of the practical training in Food Hygiene and Public Health, practical sessions are dedicate to bee health (30 h) offered to the students during the last year of their training.
This topic, developed in lectures and practical works, is in charge to the teaching group of Food Safety Unit (Coordinator prof. Giuseppina Tantillo) and is mainly performed at the "experimental apiary" and at the "honey processing plant" (regularly registered by the Local competent authority - n° 0488A25) that are present at Campus starting from more than 10 years. Some practical session are also organized in private outside apiary and honey processing units, according to the seasonal possibility.

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

During practicals in Food Hygiene students (group of 10-15) have access to slaughterhouses for different animal species were are assisted by the official veterinarians and by the teachers.
The details for slaughterhouses that have an agreement with the Department and were students have free access, are itemized in Table 4i.

Table 4i - Slaughterhouses were students of the veterinary Medicine Degree of Bari undergo training in Food Hygiene and Public Health.

Slaughterhouse	Address	Distance from the Vet-Campus	Species covered
Ciavarella e Saponaro S.N.C	Via Casamassima, Km 1 Noicattaro (BA)	10 Km	Cattle, sheep, goats, pigs, horses, chiken, turkeys
Siciliani S.p.A	Str Provinciale per Bitonto Palo Del Colle(BA)	27 Km	Cattle, sheep, goats, pigs, horses, chiken, turkeys
Sud Allevamenti SRL	Str.Prov. Laterza, km 1 Gioia del Colle (BA)	30 Km	Cattle, sheep, goats, pigs, horses, chiken, turkeys
CIES SrL	Contrada Lacometana, 16 Santeramo (BA)	45 Km	Horses
Maselli Carni	Via A. Volta 16 Ruvo di Puglia (BA)	46 Km	Cattle, sheep, goats, pigs, horses, chiken, turkeys
FINSUD Import SRL	Strada Provinciale Cozze Conversano (BA)	24 Km	Cattle, sheep, goats, pigs, horses, chiken, turkeys

4.1.6 RATIOS

Ratios are delineated from data reported in Table 4.1, 4.2 and 4.3.

4.1.6.1 - GENERAL INDICATORS FOR TYPES OF TRAINING

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

Figure	Type of activity	Hours	Data from
A	Lectures	1818	Table 4.2, 4.3, 4.4
B	Seminars	32	Table 4.2, 4.3 and 4.3a (mean data)
C	Self directed learning	84	Table 4.2, 4.3, 4.3a (mean data) and 4.4
D	Laboratory and desk based work	481	Table 4.2, 4.3, 4.3a (mean data) and 4.4
E	Non clinical animal work	603	Table 4.2, 4.3 and 4.3a (mean data)
F	Clinical work	843	Table 4.2, 4.3 and 4.3a (mean data)
G	Other	125	Table 4.2 - Extra-mural works not included in ratios calculation

* the 225 hours attributed to the Final Dissertation are not included because cannot be specifically allotted to the different training categories.
* the hours attributed to the extramural work are not included.

The main indicators of the types of training are shown in table 4. 5

Table 4.5 - Main indicators of the types of training

Ratios				Calculated Denominator	Established Denominator by ECOVE
R6	Theoretical training / Supervised practical training	=	1934 / 1927	1 / 0.996	↑ 0.576
R 7	Clinical work / Laboratory and desk based work + non clinical animal work	=	843 / 1084	1 / 1.286	↓ 1.952
R 8	Self directed lerning / Teaching load	=	84 / 3861	1 / 46.035	2.576-103.746

4.1.6.2 - SPECIAL INDICATORIS OF TRAINING IN FOOD HYGIENE/PUBLIC HEALTH

Ratios				Calculated Denominator	Established Denominator by ECOVE
R9	Total n° curriculum hours Food Hygiene/Public Health / Total n° hours vet. curriculum	=	361* / 3861	1 / 10.695	0.725-98.437
R 10	Total n° curriculum hours Food Hygiene/Public Health / Hours obligatory extramural work in veterinary inspection	=	486 / 125	1 / 0.257	0.061-0.881

* excluded extra-mural works
** including extra-mural works

4.2 COMMENTS

Please comment on:
- the way in which the veterinary curriculum prepares the graduate for the various parts of the veterinary profession, especially under the specific conditions prevailing in your country/region
- the way the curriculum is structured and reviewed
- the major developments in the curriculum, now and in the near future
- the local conditions or circumstances that might influence the ratios in 4.1.6.

In the following table 4l an 4m an overview of the hours sheared according the New curriculum running at the Veterinary Medicine of the University of Bari is shown.

Table 4l - General view of the curriculum hour/distribution of the Veterinary Medicine Degree of the University of Bari (% are rounding up).

CURRICULUM TOTAL HOURS	lectures/practicals		EU-listed subjects		core subjects	
7500	4211	56 %	3940	94 %*	3051	79 %**
					elective subjects	
					889	21
			no EU-listed subjects			
			271	6 %*		
	home study					
	3289	44 %				

* % of lectures/practicals
** % of EU-listed subjects

Table 4m -Distribution of "core" and "elective" subjects thought at the Veterinary Medicine Degree of the University of Bari according to the main group of EU-listed subjects

MAIN GROUPS OF EU-LISTED SUBJECTS	Total	%*
1. Basic subjects	116	3
2. Basic sciences	732	19
3.Clinical science	1862	47
4. Animal Production	713	18
5. Food Hygiene Public Health	485	12
6. Professional knowledge	32	1
6. Total	3940	100

* % are rounding up

In our opinion, the New curriculum designed to educate the new veterinarians at the University of Bari is a well equilibrate curriculum as:

- it covers the study program referred to in the Directive 2005/36/EC in such a manner that the educational aims are met;

- it gives a widespread theoretical/professional veterinary training (the knowledge culture) that has always been the strength of the Italian University and allows graduate to be competent in all areas of the Veterinary Science (Animal Health and Welfare, Food Safety, Public Health, Animal Production).
- It includes a reasonable amount of practical training (the make culture) that allows graduated to face up to the day-one problems of the veterinary practices.
- it encourages the extramural works in order to let students to meet the professional reality thus improving, at the same time, the relationship of the academic world with the territory (i.e., practitioners, livestock farms, food industries, slaughterhouses, etc.)
- it allows a more advanced training in one of the three main fields of the Veterinary Medicine (Companion Animals medicine, Food Producing Animals medicine and Food Hygiene and Public Health medicine)
- it allows students to meet the day-one competences.

The graduates trained at the Veterinary Medicine course of Bari, therefore, have the potential to enter into all field of job market by having enough knowledge and competences on the different professional profiles required at Regional as well as National level.
It should be remembered, however, that in Italy the graduate in veterinary medicine has many job opportunities in private fields but holding the degree is not enough itself to begin the career as Official Veterinarians. To enter in the National Sanitary Service (ASL) graduated students must hold a 3-years post-degree diploma achieved in one of the following areas: 1) Animal Health, 2) Food Hygiene of Animal Origin and 3) Livestock and Livestock Products Hygiene (see Chapter 12 - Postgraduate education).
Due to the recent introduction of the New curriculum it is not possible to quantify the effective feed-back of our educational efforts in terms of occupational results.
The generalized increasing discomfort for the low average income into the labour world recorded during the last years, moreover, makes the data from the labour market a rough indicator of the quality of the teaching provided, thus leading to mistaken judgment: e.g. the occupational data refer to the graduated in the northern Universities can reflect the higher job demand of the northern of Italy compared to the southern of Italy. A more effective evaluation tools of this matter would be necessary.

At the moment, and in the near future, no further adjustments to the framework of the curriculum are envisaged unless not expected problems arise during the application of a New curriculum.
Much can be done, on the contrary, to innovate the teaching techniques towards the direction indicated by the "Bologna process" by implementing, for example, the problem-based teaching and the computer-based self-learning. Clinical and non-clinical on-line educational strategies can help students to improve their classroom sessions and home study.
A further matter of innovative teaching methods that have to be investigated is to design courses centred on individual animal species rather than on disciplines. This approach is long since adopted by several European Veterinary Schools whereas has been historically ignored by the Italian academia. It would be interesting to start focussing teaching activity on such an approach adopting a model centred on "minor species" that are important representative of the livestock of Southern Italy.

As shown in paragraph 4.1.6.1, all denominators meet the expected ratios and possible refinements on curriculum structure should not put to hazard their consistency with reference values.

4.3 SUGGESTION

If the denominators in 4.1.6 for your Faculty are not meeting the range as indicated in Annex I, Supplement A, what can be done to improve the ratios?

Not applicable

5 CHAPTER

Teaching, Quality and Evaluation

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CHAPTER 5 - TEACHING: QUALITY AND EVALUATION

5.1 - FACTUAL INFORMATION

On the 30th of January 2013 the Ministry of Education, University and Research (*Ministero dell'Istruzione, dell'Università e della Ricerca* - MIUR) has enacted a series of new rules (Ministry Decree 47/2013) finalized to promote a continuous monitoring of the teaching, research and financial sustainability of the Universities and University Degree courses.
To comply with the MD47/2013 directives, the University Degree courses must supply a number of information concerning the curriculum, the pedagogical/educational tools envisaged to attain the intent of the course, the way to verify the knowledge and learning skills got by students, and so on.
All the above-mentioned information, along with factual information on the teaching staff number and teaching excellence, the premises/facilities and equipments and so on, are collected in a public on-line form (*Scheda Unica Annuale dei Corsi di Studio* -SUA-CDS) that must be annually updated. The SUA-CDS of the Veterinary Medicine Course of the University of Bari has been already compiled and submitted to the University offices and it will be published soon on the website of the University and of the Ministry.
Two main controlling bodies, the National University Committee (*Comitato Universitario Nazionale* - CUN) and the National Agency for the Evaluation of the University system and the Research (*Agenzia Nazionale di Valutazione del Sistema Universitario e della Ricerca* - ANVUR), are charged with the task to evaluate these records and to draw up a quality reports for all the Italian Universities/Degree Courses.
The outcome of this periodical evaluation (every 3/5 years) leads to the ranking of the Degree courses in one of four categories of merit: "full positive", "satisfactory", "qualified acceptance" and "unsatisfactory". Based on the rank of the Degree course, the possibility for the Degree course to be activate is established. Also, different parameters will be calculated and applied for the allocation of public funding, including the budgets for recruitment of new staff, for career progression of the permanent staff and for possible personal rewards or penalties for teachers.
The MD47/2013 established a similar acknowledgment procedure to monitor and evaluate the research quality of the Italian Universities (see Chapter 13 - Research).
Currently the new rules established by the MD47/2013 have already been implemented by the Italian University Degree Course but the results are expected to be visible in 2017.

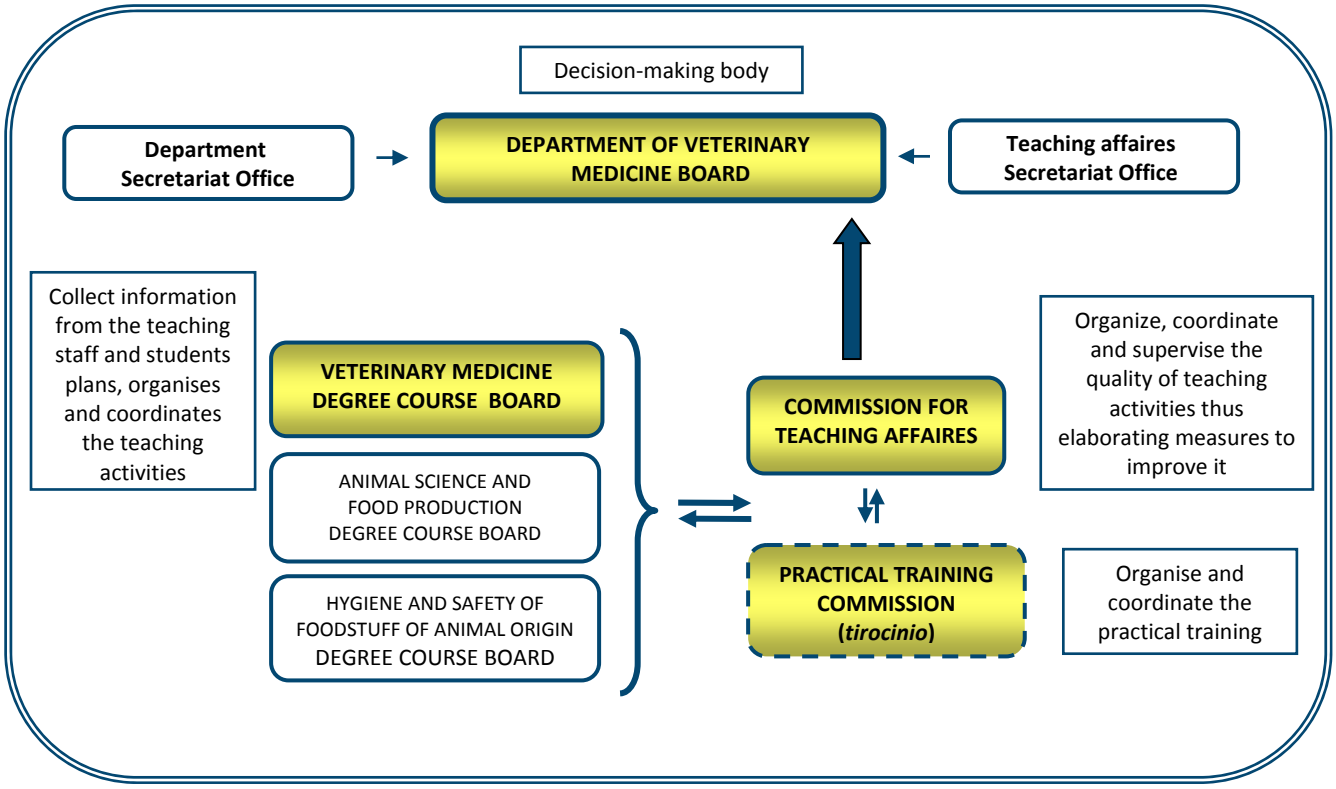
5.1.1 -The teaching program

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

All the fundamental rules inherent in the organization and delivery of courses are included in the Veterinary Medicine Degree Course Teaching Regulation. This is approved by the Board of the Department of Veterinary Medicine upon proposal of two committees that overview the quality of teaching in the veterinary medical curriculum: the Veterinary Medicine Degree Course Board and the Committee of Teaching Affaires. At this moment, at the end of the long period required to

transform the curriculum according to the rules imposed by the MD590 and the MD270 (see Chapter 4 - Curriculum), a new Teaching Regulation of the Veterinary Medicine Course is being drawn up. This Regulation has to be presented to the Veterinary Medicine Department Board for approval.
The governance of the teaching activities offered at the Vet-Campus of Valenzano is within the responsibility of the Veterinary Medicine Department Board, of the Committee of Teaching Affaires and of the Veterinary Medicine Degree Course Boards (Figure 5.1) (see Chapter 2 - Organisation - for more detail on setting up and composition of these governance bodies).
Such organs have the overall aim to monitor the teaching efficiency and quality and to coordinate the teaching activities among all the courses that are operating at the Vet-Campus.

Figure 5.1 - Flow-chart showing the governance bodies involved in the coordination of teaching at the Vet-Campus of Valenzano



The final responsibility of all teaching activities belongs to the **Department of Veterinary Medicine Board,** chaired by a Director. It represents the governance deliberating body and its main duty is to deliberate on the following subjects, ecompassing all the Degree Courses running at the Vet-Campus:

- teaching organization with the contribution of the advisory competent committees (Committee of Teaching Affaires and Degree course Boards), e.g. assignment of every course to a single teacher, composition of the board of examiners (for each single courses and for the defence of the graduation thesis), and so on.
- accomplishing for any changes inherent all the aspects of the organization of the teaching program, the teaching methodology and the examinations methods for each single discipline

- approval and publication of the study program (subject programs, lesson timetable, calendar of the exams, and so on)
- formulation of proposals and opinions on the amendments of the Teaching Regulation of the Degree Course
- formulation of proposals for hiring new teaching staff members and/or the career progression of permanent staff.
- allocation of resources for the didactic needs

The managerial position of the Department Director is supported by the **Teaching affaires Secretariat Office** and by the **Department Secretariat Office**.
The former has the task of tutoring and supporting students in their course of study, managing a student information desk, updating the Department web-site. It also collaborates in activities of retrieval and process of data that are required to conduct internal and external audit for the control of quality assurances process.
The Department Secretariat Office has the task of supplying the administrative competence to manage all the resources allocated for educational purposes.

The **Commission for Teaching affairs** is a committee dealing with the organization and quality assessment of all teaching activities at the Vet-Campus. Therefore its interests cover all the Degree courses, not only the Veterinary Medicine Course. This commission has been, among other things, largely involved in the re-organization of the curricula of the three Degree Course managed by the Department, in compliance with the last law regulations (see Chapter 4 - Curriculum).
The Commission for Teaching affairs is a joint commission, i.e. it is composed by both teachers and students and includes also representatives of the administrative staff (see Chapter 2 - Organisation). The Commission for Teaching affairs is chaired by a Coordinator that defines the agenda of the meetings and orchestrates all the activities.
The main missions of the Commission for teaching affaires are:

- managing, in general, all student activities including the supervision of the rights and obligations of students and the possible discussion between teachers and students
- analysing the issues related to the efficiency of teaching, of the study plans of the tutoring and other services offered to the students by the Department.
- interacting with and coordinating the Degree Course Boards and the Department Board
- proposing additional educational activities
- supervising the organization of practical activities managed by the Practical Training Commission and submit suggestions for the management of resources allocated to educational activities.

The **Veterinary medicine Degree Course Board** is the main institution involved in the coordination of the teaching activities of the veterinary Medicine Degree Course that works in strict collaboration with the Commission for Teaching affairs and the Practical Training Commission in order to elaborate the best educational policy.
It is composed by all the teachers involved in the Veterinary Medicine training, irrespective of their Department affiliation, and by representatives of the students and administrative/technical staff, and it is chaired by a President.
The task of the President is to supervise the execution and efficiency of the teaching activities and to collect information from students and teaching staff, in order to reveal any possible problem and submit the issue to the Commission of Teaching Affairs. The Degree Course Board plans, organises and coordinates the teaching activities of the Veterinary Medicine Course and

elaborates the proper measures to improve general or specific activities. The proposals and suggestions emerging from the Degree Course Board meetings are firstly supervised by the Commission of Teaching Affairs that assures the co-ordination of the three operative Degree Courses at the Vet Campus. Each proposal/suggestion must be approved by the Department Board before being applied.

The **Practical Training Committee** is a "specialised" advisory body (see chapter 2 - Organization) charged with the following tasks:

- coordinating the practical training activities
- defining the requisites for admission to the practical training activities
- scheduling and managing the rotations of student groups at the Vet-Campus premises and at the external farms, facilities and institutions.
- consultancy/guidance on the opportunity to renovate agreements with external farms, facilities and institutions or to establish new agreements upon proposal by teachers, on the basis of: i) evaluation of the professional level of the staff and facilities; ii) the possibility to draw up a formative project; iii) the presence of a qualified graduate fellow acting as supervising tutor.

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

The fundamental pedagogical tool used by all teachers when providing theoretical education to students is the lecture in classroom, performed with the help of PowerPoint presentations. In general electronic copies of these presentations are made available to students as a guide for the preparation of the exam.
Depending on the subject, specific topics are discussed with students in form of seminars taking advantage of the presentation of audio-visual material and clinical cases. Some teachers involve students in self-directed learning activities, i.e. investigating in depth some topics that have been discussed partially during lectures. For these tasks, usually the students are provided with with scientific articles and notes. Moreover, some courses (e.g. Parasitology) include frontal lectures in English language and seminars (about 1/5 of lectures) thus allowing the students to learn scientific terminology in this language. The knowledge transferred during the lectures can be integrated by lectures given by external teachers with specific competence on particular topics that can be also delivered in English language.
Interactive computer-assisted learning is part of activities in the course of Statistics, Animal Production and Veterinary Epidemiology. Multimedia materials, helping students to develop autonomous work are available at the Central Library (see Chapter 8 - Library).
The recent transformation of the Veterinary Medicine curriculum has emphasized the need to introduce pedagogical systems more suitable for attaining the educational objective envisaged by the Bologna's declaration, and defined by the Dublin Descriptors, chiefly for supervised practical works and clinical works for which the number of hours has been significantly increased.
The interventions adopted to implement the efficacy of practical training are 1) a careful organization to organize working shifts, thus allowing the students to work in small groups and ensuring direct contact and experiences; 2) involving a number of qualified external teachers that contribute in an integrated and co-ordinated fashion to supply the students with profession-

oriented skills and 3) drawing up a network of agreements with local practitioners, State Veterinary Officers, livestock farmers, slaughterhouse and food industry, thus allowing the students to learn and acquire, in a practical environment, basic and specific skills in different professional veterinary fields.
Problem-based learning is not yet as common as it would be desirable. This teaching method is undoubtedly worth of improvement.

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

Although most teachers warn the students to avoid using their course notes as substitute for standard textbooks and invite them to consult veterinary textbook before sitting for the exams, the course notes and the PowerPoint presentations of lectures are the most popular information source for the students. Students are very active and well organised in collecting, elaborating and exchanging this didactic material.
All teachers recommend the bibliographic sources to use for preparation of the exams (most of them are available at the Central Library for consultation or loan). The bibliographic sources include review articles on specific subjects as part of the teaching material useful to gain a better understanding of specific subjects. Moreover some teachers give to the students the PowerPoint presentation of their lessons as a guideline for the exam preparation.
Feed-back from the Central Library reveals a intensive textbook consultation. It is common to see students to hold personal copies of textbooks at the exams. With some exceptions, the textbooks appear to be loosing importance in the learning process of student.
The main reasons of this increasing tendency can be accounted for by the high costs of textbooks in Italy, by the changed pedagogical system adopted in high schools that promotes the use of informatics tools and, for some subjects, by the lack of upgraded textbooks in Italian language.

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

As said elsewhere, a number of farms, breeding centres, practitioners, state veterinary services, factories/processing plants, external laboratories and slaughterhouses are involved in the training of the veterinary students. A complete list of these external bodies is depicted in Annex 4.3 and Annex 4.4.
Two types of agreements regulate the relationship between the Department and external bodies.

- Official agreements (Annex 4.3): they are enacted after i) the advice of the Practical Training Committee, that establishes the eligibility of the facility and of its staff; ii) the official approval of the Department Board; iii) the official acceptance by the host body. The facilities are mainly evaluated on the basis of: suitable premises; general services; teaching material; possibility to carry out educational activities; presence of one or more graduate

experts that can be asked to supervise the students training. The duration of these contracts is of 3 years. At the end of the 3-years agreement, the renewal is usually automatic unless one of the parts requires the official rescission. These agreements allow the students to access the facilities in small groups and to carry out extra-mural practices that are mandatory for all students under the guidance of the teachers (intra-mural works). Based on the availability of qualified tutors, moreover, these agreements allow a small group, or single students, to perform mandatory or optional extra-mural work periods, tutored by the official teacher but under the direct guidance of external professionals.

- Informal agreements (Annex 4.4): they are non-official agreements established directly by teachers. Such agreements must be communicated to the Department for insurances reasons. The teachers take personal contacts with selected public or private bodies based on the educational needs of the course. Only intra-mural practical works under the guidance of the official teaching staff of the Veterinary Medicine Course are carried out under such informal agreements. The number and the facilities involved in this kind of agreements can undergo year-by-year changes, but in general, tanks to the good relationship established, most of them become virtually permanent.

The main agreement protocols enacted by the Department is with some Territorial Units of the National Health System (*Aziende Sanitarie Locali* -A.S.L) and with some Experimental Zoo-Prophylactic Institute (*Istituti Zooprofilattici Sperimentali* - I.Z.S.).

The former offer the experience of official veterinarians working in three main professional field: Animal Health, Hygiene of Food of Animal Origin and Hygiene and Control of Animal Breeding, Animal Production and By-products. In this context students gain experience in topics related to public health, official controls and inspections by participating in control activities of feedstuffs and animal production, veterinary medicinal products and residues and in sampling activities.

The Experimental Zoo-Prophylactic Institutes introduce the students to certified laboratories for the analysis of food products and for the diagnostic and epidemiological investigations on infectious diseases.

An additional two agreement protocols are currently established with the Regional Faunal Observatory Station (Bitetto - BA) and with the Centre for the Conservation of Martina Franca Donkey Genetic Inheritance (Martina Franca -TA). These agreements are signed for medical assistance and professional consultancy for wild birds and donkeys, respectively but they are also a great educational opportunity for the training of students.

All the above-mentioned agreements are open to all students.

A particular agreement protocol is also open with the Veterinary Military Centre located in Grosseto (Tuscany). The Centre organises a yearly stage for a selected group of students of the Veterinary Medicine Course. Admission to the stage is regulated by a limited access program (n=5) and the students eligible for the program are selected on the basis of their curriculum. The participants have the opportunity to do a direct experience on the management of horses, and on a variety of clinical and horse therapy-related activities including a special training in farriery. Moreover, the students can gain experience in some peculiar aspects of the veterinary activities performed at the Centre where there is a breeding, selection and training centre for dogs trained for the search of explosive devices. All the activities performed by the students during this training period are under the guidance of Army veterinarians and of the highly qualified Centre staff. All the students enrolled in this program are covered by liability insurance during their official extra-mural activities.

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

The general learning objectives essential for the veterinary curriculum are clearly presented, annually up-dated and published, on the Department web-site (http://www.uniba.it/ricerca/dipartimenti/dipmedveterinaria). In this website all information concerning the organization, the objectives and the occupational opportunities of the Veterinary Medicine Degree Course are clearly exposed. Starting from 2013, the educational objectives of the individual learning activities are also illustrated according the Dublin Descriptors in the SUA-CDS document drawn up to comply with the MD47/2013 requirements (see before, Factual Information).
The students of the Veterinary Medicine Degree Course are expected to learn the scientific, methodological and cultural basis of the Veterinary Medicine as well as the theoretical-practical foundation of the Veterinary practice.
For these purposes, the general learning objectives of the degree Course can be summarised as follows:

- acquisition of basic knowledge on physic, chemistry, animal/vegetal biology and biomathematics/statistics in view of possible successive professional application.
- acquisition of basic knowledge on molecular biology and biotechnology applied to genetics, reproduction and clinics
- acquisition of essential theoretical knowledge on the cell biology and animal tissues/organs morphological and regional organisation, on the animal physiology/endocrinology and on microbiology, immunology and genetics subjects
- acquisition of an adequate veterinary education to in reveal, evaluate and manage the animal health/disease/welfare status both in the single animal or in farms.
- acquisition of competence in the assessment of all relationship among animal/man/environment with particular reference to the possible diffusion of zoonoses, pharmaco-resistance spreading, chemical and biological pollution.
- acquisition of competences on farm management, animal breeding, animal nutrition, basic economy and marketing.
- acquisition of competences to operate in the field of the hygienic and quality control of foods of animal origin.
- acquisition of the theoretical/practical basis on the traditional and innovative laboratory techniques applied to the diagnostics.
- acquisition of the principle of national and international laws related to the different veterinary medicine fields.
- acquisition of the principle of deontology and animal bioethics
- acquisition of basic informatics and relational competences functional to the public relations, to the professional orientation and to the entrance in the labour market
- knowledge of a foreign language used in the EU (English).

The general learning objectives are developed through the application of the pedagogical approaches described in a previous paragraph (e.g. theoretical lectures, seminars, self-directed learning, practical demonstrations, practical activities carried out at the Vet-Campus or extra-

mural activities, and so on) and the compliance with these objectives is continuously reviewed by the presidents of the Degree Course Board, of the Practical Training Committee and by the coordinator of the Teaching Affairs Committee.

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

The goal of examinations is to ensure that students have acquired all the qualifications to graduate as veterinarians. Because Day-one skills are an integral part of a lot of subjects taught at the veterinary courses, successfully passing the exams (including the final dissertation) is the first evidence that the graduate has acquired these learning objectives.
In parallel, documents providing punctual evidence of learning for all requested skills are:

- the *tirocinio* LogBook (see Chapter 4 - Curriculum)
- the Professionalizing Didactic Path (PDP) LogBook (see Chapter 4 - Curriculum)
- the Student's LogBook (see Annex 5.1)

The Student's LogBook, in particular, has been introduced in 2013 in order to control the learning process of students during practical activities and to assign to the students the responsibility to plan their training, in order to acquire all the Day-one skills essential to face up to the veterinary profession. In this booklet a number of practical activities are scheduled, consistent with the Day-one skills listed in Annex IV of the EAEVE SOPs. Students have to do the scheduled practical activities at least once during their training in Veterinary Medicine. The regular execution of such activities is certified by the supervisor's signature. The student is in charge of checking that the required activities have been accomplished and, if necessary, to plan the pending activities. The students must fill their personal LogBook properly and deliver it to the Students Secretariat Office before graduation.

5.1.2 The teaching environment

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

No particular staff development facilities in relation to teaching skills are currently available in the Campus and, in general, in the University of Bari.
Specific training course are occasionally organised by the University to supply specific skills to the support staff, mainly to the administrative staff (e.g. use of new informatics programs introduced for the needs of central administration).

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

According to the MD47/2013 (see before, Factual Information and following paragraphs), the outcome of monitoring of each single teacher didactic performance will result in inclusion in one of four categories of merit and, starting form 2017, personal rewards are envisaged for worthy teachers. Currently, however rewards systems for teaching excellence are not enacted.

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

All the problems related to shortcoming in the quality of teaching is brought to the attention of the President of the Degree Course and of the Commission for Teaching Affairs by the teacher or by the unsatisfied students. A task of these collegial bodies will be to tackle and solve the problem, in conjunction with the teacher.

5.1.3 The examination system

Describe the examination system of the Veterinary Medicine Course

The Veterinary Medicine students have to pass two types of examination during their career:

- the progress exams that certify the knowledge and skills acquired in the compulsory subjects envisaged by the curriculum
- the final exam (thesis dissertation) before the student's graduation.

Moreover, after graduation, the neo-doctor in Veterinary Medicine (DVM) has to pass the qualifying examination (*Esame di Stato*) that is compulsory to practise the veterinary medicine private practice. The *Esame di Stato* is managed by the local Veterinary Association and the examination board is composed of 4 academic members and 8 external examiners, i.e. practitioners or Official Veterinaries, with expertise in Animal Husbandry, Food Hygiene and Public Health, Internal Medicine, Prophylaxis and Avian Pathology, Surgery and Gynaecology.

With regard to the progress exams, the examination system of the Veterinary Medicine Course of the University of Bari allows teachers to organize the exams in discretional fashion (see underneath for more details). Therefore the course teachers are responsible for defining the modalities by which the exam will be performed. The teacher is asked to illustrate the modalities of examination at the beginning of the year, together with the course program, and to explain these modalities to students at the beginning of the course.
The calendar of the exam sessions is set at the beginning of each academic year.
The examination committees are designated by the Director of the Department of Veterinary Medicine and are composed of at least two members. One of them assumes the role of President. The number of members in the examination committee depends on the type of course (mono- or multi-disciplinary teaching courses, see Chapter 4 - Curriculum).
All the information about the progress exams, i.e. the modalities, the calendar and the members of the committee, must be published in the website of the Department and are enclosed in the annual SUA-CDS (see above) that can be consulted at the University web-site.
Thus far, the students willing to sit for examinations have to sign up on a list affixed by the President of the examination committee. Starting from 2014, a web-based registration system will be introduced and the students will have to sign up during the week before the exam data. In this way, the list of registered students will be available online to the teacher prior to the exam.
The exams must be carried out in a classroom open to the public.

The rules governing the discussion of the student final graduation thesis have already been discussed in Chapter 3 - Curriculum.

Is there a central examination policy for the Veterinary Medicine Course as a whole? If 'yes', by whom is it decided?

The fundamental rules of the examination system are set up in the Teaching Regulation of the University of Bari (art. 24). These rules leave some discretion to the teacher responsible for the course on the modalities of the exam. However some fixed rules must be observed:

- the exam has to be carried out by a commission composed by at least two members, including the teacher in charge of the course.
- the exam data can be changed only in exceptional and motivated circumstances and they can not be anticipated. Moreover any change in the exam date must be promptly communicated to the Director of the Department, to the President of the Degree course and to the students.
- the exam mark is awarded on a scaled score of 0 to 30. The exam is passed if the student achieves a score equal to or higher than 18 out 30. The exam commission can also assign a full mark with honours (30/*cum laude*) but the decision must be unanimous.
- if the exam is evaluated negatively (less than 18 out of 30), the mark is not reported officially on the Student Exam book.
- the student is free to withdraw from the examination when he wishes.

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

As attendance to lessons is compulsory for on-course students, the exams take place during periods when lessons are suspended.
This "examination period" is inserted between two consecutive two-month lesson periods. Therefore four examination periods are scheduled for each academic year. Three examination periods are about 3-weeks long while the period inserted between the last lesson period of the year and the initial lesson period of the subsequent year is longer (June, July and September). The lesson and exams periods are scheduled yearly and in table 5.1 the schedule for 2014 is reported.

Table 5.1 - Planning of the lessons/exams periods scheduled for 2014.

	PERIODS	DATE
1st two month	Lessons	30 September 2013 8 November 2013
	Exams	11 November 2013 30 November
2nd two month	Lessons	2 December 2013 29 January 2014
	Exams	30 January 2014 21 February 2014
3rd two month	Lessons	24 February 2014 4 April 2014
	Exams	7 April 2014 2 May 2014
4th two month	Lessons	5 May 2014 13 June 2014
	Exams	17 June 2014 26 September 2014

In each exam period, the beginning date of the exams session for each subject is planned and students can sit for as many exams as they want, without restriction, provided that they have the attendance certificate of the course.
Off-course students can take advantage of additional sessions that allow them to carry out exams every month.
In Annex 5.2 the 2014 calendar of exams for "in-course" (New curriculum) students is shown.

What form(s) of examination are used(written paper, multiple-choice question, oral practical, clinical examination, continuous assessment, etc.)?

The examination commission of each course is free to decide the examination modalities.
Therefore, several types of examination are used either alone or in combination:

- oral exam, the most common form
- written exam, in form of problem to solve, question to develop or multiple-choice questions to answer
- practical exam, for the assessment of clinical competence and operative practical skill

Some teachers use a mixed type of examination and some assess the theoretical knowledge and practical skill separately.
Moreover, one ore more interim tests are provided in some course. Participation of students to these tests is optional but, as passing the interim test ensures a lighter workload during the final exams, students in general appreciate this form of evaluation.

Is use made of external examiners?

In general no external examiners are used. Sometime the examination commission can include external non budgeted staff (e.g. fellowship and other kinds of the research grant recipients holders) that are appointed as "experts in a subject" (*Cultore di Materia*) by the Department Board (see Chapter 10 - Academic and support staff).

How many retakes of an examination are allowed?

At the University of Bari, as well as at national level, the students can sit for examination for an unlimited number of times (see Chapter 9 - Student Admission and Enrolment for comments on this subjects)

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

No, they don't.

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

Students cannot enrol in the following year if they have not taken the minimum number of exams scheduled for the year (see table 9.7 at Chapter 9 - Student Admission and Enrolment). Moreover they have to respect the order of certain exams that are considered propaedeutic (see table 4.e at Chapter 4 - Curriculum).
All together, the two imposed blocks drive the students career and take them to the fifth year after having already passed 20 fundamental exams of the 30 total.

5.1.4 Evaluation of teaching and learning

- Describe the method(s) used to assess the quality of teaching and learning in the Veterinary Medicine Course
- Indicate whether the evaluation is a Veterinary Medicine Course procedure, or one set up by individual departments, by students or by individuals.
- Indicate the use of external evaluators.
- Describe the role of students in the evaluation of teaching and teachers.
- Describe the follow-up given to the evaluation.

Until 2013, two main tools have been applied to evaluate the quality of teaching both based on a satisfactory survey that students are invited to participate during class hours at the end of each course. The students perform these evaluations anonymously.
Therefore the students are the only evaluator of teaching and teachers and no external evaluators are asked for this task.

Student questionnaire managed by the University of Bari (see Annex 5.3)
This satisfaction survey questionnaire is divided into three sections:

- the fist section deals with the student profile and his career,
- the second section includes the evaluation of the individual course (program, textbooks and didactic material),
- the third section includes the evaluation of the teacher and of the lectures.

In the 2 last sections the student is expected to answer to each questions with 4 possible answers ranging from no satisfaction at all to full satisfaction.
The results are processed by external reviewers (*Consorzio Valmont UniFi* - www.valmont.disia.unifi.it) and the output of the survey is structured as both a general and an individual report.
The general report is available on the web to both the student and teachers (https://valmon.disia.unifi.it/sisvaldidat/uniba/). The individual report is confidential and each teacher can only have access to his own evaluation.
The Director of the Veterinary Medicine Department, the Coordinator of the Commission for the Teaching Affaires and the President of the Degree Course Board can have access to both the general and individual report.

Student questionnaire managed by the Department of Veterinary Medicine (see Annex 5.4)
This satisfactory survey questionnaire is divided in 3 sections:

- the first section includes the evaluation of the theoretical training
- the section one includes the evaluation of the practical training

- the third section invites the student to explain the positive and negative aspects of the course teaching and to submit suggestions to improve teaching quality

In the 2 first sections the student is expected to answer to each questions with a mark ranging from 1 (no satisfaction at all) to 10 (full satisfaction).
The results are processed by the Delegate for the Self-Evaluation of Teaching (prof. Grazia Carelli) that is in charge of promoting the survey among the students, of analysing the individual report and of presenting the results of the single evaluation confidentially to each teacher and of the general and individual reports to the Director of the Veterinary Medicine Department, the Coordinator of the Commission for the Teaching Affaires and the President of the Degree Course Board.

The results of the surveys are analysed and discussed by the Commission for Teaching Affaires in which students are largely represented, that use the surveys to propose effective interventions. A task of the Director of the Department of Veterinary Medicine is to organize private meetings with the teachers receiving a significant number of low evaluations. During the audit, the teacher will be required to justify the poor level of satisfaction received in the evaluation and to detail the actions envisaged to amend the criticisms.
Moral suasion is the only weapon the Director can use to manage this delicate task. No disciplinary measures can be legally taken if the low performance in teaching is the only deficiency ascribable to a member of the teaching staff.
Since the satisfaction questionnaires collected at the end of the courses are the main tools to evaluate the teaching and teacher quality, students have a major role in this process. Also, through their representatives sitting in the Commission for Teaching Affaires, the students are immediately informed about the follow up of the survey. However, despite the wide promotion of the importance of this notification tool, the participation of students is "inactive" and most of them still consider these surveys a waste of time.
Starting from 2014, in compliance with the MD47/2013, a new system for the evaluation of the teaching quality will be performed on-line by a dedicate web site. The survey will involve not only the students but also the teachers which will be asked to fill up satisfaction questionnaires dealing with the evaluation of a performances of a board of students attending the course (attention, interest, personal involvement in practical works, and so on).
This new procedure will result in a more rapid output of the results and will improve the compliance of students with the evaluation process, as filling in the on-line questionnaire is an essential requisite to sit for the exam.

Further information on the teaching and learning quality at the Veterinary Medicine Course can be inferred by the data published on the *Almalaurea* web site.
*Almalaure*a is an interuniversity consortium supported by the Italian Ministry of Education, University and Research (*Ministero dell'Istruzione, dell'Università e della Ricerca* - MIUR) to which the University of Bari is associated. *Almalaure*a manages the main database of Italian graduates by monitoring the curricula and the performances of the various Degree Courses. It also analyses the effectiveness of the educational offer of the degree courses through the periodical monitoring of the professional market. The *Almalaurea* web site is consulted by national and international agencies and companies, which are looking for qualified personnel.
All the university students, before graduation, have to fill compulsory an on-line questionnaire dealing, among other things, with the quality of the Degree Course. External reviewers process the data and an annual report is published on-line (www.almalaurea.it/universita/profilo).

5.1.5 Student welfare

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

The Italian current regulation concerning safety in the workplace (DL 81 of 9 April 2008) drives the general measures applied at the Vet-Campus to ensure healthy and safety to students that, for the provisions of this law, are considered as employees.
Information and training on the risk arising from works related to specific activities are supplied to the students by the teachers and expert laboratory technicians when they approach to the laboratories, dissection/necropsy rooms, slaughterhouse, Veterinary Teaching Hospital and all facilities at the Vet-Campus and outside.
General strict rules are imposed to students when they work to the laboratories (only authorised personnel are permitted in the laboratories, smoking, eating and drinking is forbidden in lab, individual safety equipment and protection are required, turning off any electrical equipment at the beginning of the section work, and so on) and great care is taken in teaching how to work according to Good laboratory practices that are essentials to make the laboratory a safe place to work.
Students must follow precise hygienic rules whenever they come into contact with animals and they must be provided with personal protection devices, which may vary depending on the activity involved (clinical activity at the veterinary Teaching Hospital, necropsies, livestock farm, slaughterhouses, food industries, etc.). Animals suffering from the most common non-zoonotic diseases are selected for the training in Infectious Diseases at the Isolation Unit of the Animal Hospital or are visited in farms.

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

At matriculation, all student are supplied by personal credentials the allow them to access all the informatics services provided by the Department and by the University (document download, relation with the offices, checking of the career status, access to database and e-journal, etc.)
In addition to several facilities that are free and open, already described at Chapter 8 - Library (library, *Penisola Didattica*, various reading rooms at the different Units of the Department), three rooms at the Vet-Campus are specifically dedicated to students:

- the students' office with representatives of the student community being available to discuss problem concerning the Degree course and to collect, elaborate and exchange the bibliographic reference for the exams preparation. This room is equipped with 3 PCs and 1 photocopier (a further photocopier can be used by student at a very cheep prize - 3€/100 copies - in the corridor of the same building)
- the students' rest room open form 14:00 to 20:00 equipped with television, ping-pong table and other playtime goods
- the students' reading room

Moreover students can have recreation time in a cafeteria and in a refectory where meals are offered at prices ranging from 5.88 € to 0 €, according to the student income.
The Department allows the organization of one/two parties per year provided that the students guarantee a support to the standard security and to the cleaning service.

The University of Bari recognises and encourages all the activities that contribute to improve the quality of University life by supporting cultural/sportive students' initiatives. The University allocates funds for supporting educational or cultural projects proposed by the students. Most of the events are realised at the Vet-Campus as the Department make the *Aula Magna* available with no costs for meetings and conferences organised by the student organisations (see Chapter 11 -Continuing Education)

The University Sport Centre (*Centro Sportivo Universitario* di Bari - CUS) covers an interesting and complete set of sport opportunities and it is located in Bari (Lungomare Starita, 1 – www.**cusbari**.it/). The University Sport Centre facilities are available to the entire University Community and students may participate to a number of sports facilities and practice a large number of sport disciplines either freely or at discounted price.

Special prices are offered to students of the University of Bari for cinema, theatre and concert tickets and the students attending the courses offered at the Vet-Campus of Valenzano, can take advantage of discounted tickets on public transports.

The students of the Veterinary Medicine Degree Courses organise every year a male and female mini soccer tournament and a volleyball tournament. Teachers and members of the support staff can participate to these competitions. The prize-giving ceremony takes place at the Vet-Campus and it is always a nice meeting opportunity between students and the academic and support staff.

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

The University of Bari cooperates with the Regional Agency for the Right of Study (*Agenzia Regionale per il Diritto allo Studio Universitario* - A.Di.Su.) and offers a variety of services in order to guarantee equal rights to study to all students. A.Di.Su assigns in particular additional benefits to students with financial difficulties and a good academic curriculum (accommodation and food at University Student Dorms, vouchers for textbooks, financial support through grants).

Reductions of fees and contributions are applied for students with disabilities, for working students, and for candidates who qualify for a study grant (see Chapter 3 - Finances).

Paid part-time jobs in the University's main educational facilities (secretariats, library, and so on) are available for all the students who have already completed the first year of the course and who meet specific merit and income requirements. Students may work a maximum of 150 hours per year.

No architectural barriers are present in the campus, and all the buildings and rooms (including services) are accessible to students with physical problems. A person delegated by the Department (Prof. Giuseppina Tantillo) is charged to monitor the welfare of students with disabilities and to solve problems.

Each Degree course of the University of Bari ensures a tutoring service for students with learning or physical problems. The tutoring service is supplied by:

- tutors officially selected among the teaching staff to whom 2-3 students per year are entrusted. Tutors have to assist students during the degree course, provide them with all the information and help them remove the obstacles encountered during their student career.
- teachers of single courses that are requested to define a weekly timetable to meet students. The rapid communication via e-mail is now more popular to fix an appointment

for tutoring exigencies. During the tutoring section the teachers provide information and explanations on arguments related to their individual courses.

- graduates in Veterinary Medicine (in general PhD students) that offer their assistance in supporting the learning process of the students both when preparing exams and during the preparation of the final dissertation. This tutoring service is paid by the Central Administration.
- students or graduates that offer assistance in supporting students with physical problems in all their needs. Also, this tutoring service is paid by the Central Administration

Finally the students can receive the assistance of a dedicated Committee (*Commissione di orientamento*, president prof. Angelo Quaranta) devoted to facilitate the entry of the new student at the Vet-Campus by supplying information on the organization and the progression of the Degree course as well as on the services offered at the Vet-Campus. Further assistance to the students is offered by different Student Associations operating at the Vet-Campus that organise the reception of the first-year student, supply assistance during all the study course and also act as an intermediate between students and teachers.

Advice on job placements is supplied by the Job Placement service of the University of Bari that organises meeting in which the problems related to the entry in the professional world and the perspectives of different professional branches are tackled. The students, moreover, can learn how to prepare a *curriculum vitae*, how to present at a working colloquium, how to organise a career plan.
These subjects, moreover, are specifically treated for the veterinary Medicine student during the last period of the PDP training in targeted seminars ran by expressly invited Presidents (or their delegates) of the Veterinary Professional Board of different Apulian Provinces.

5.3 COMMENTS

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

As underlined in this document, the Italian Veterinary Medicine Degree Courses live an important transitional phase and, in this moment, all the teaching staff is working to revise the programs and teaching strategies to optimize the new curriculum training. Moreover there are still some hesitations by most of teachers to embrace new pedagogical approaches (e.g. problem-based learning), which are more consistent with the new European didactic directives. The future implementation of a national system to reward teaching excellence by means of accelerated promotions and/or prize would be an excellent propellant to improve the individual teaching skill.
A new on-line evaluation system of quality of teaching carried out by students and teachers started this year, and this will surely help the process of innovation of the didactic approach. Moreover the publication of the results of the evaluation will satisfy the constant requests of transparency on this matter raised by students.
A lot of work has been done, but a lot of work remains to be done, in order to ensure the best coordination of the teaching programs and to optimize the teaching quality. From this perspective, the jointed efforts of the President of the Degree Course Board and the Coordinator of the Commission for Teaching Affaires have already obtained important results.

There is still a lack of feedback on the efficiency of the undertaken initiatives and we must wait the end of the first 5-years cycle to draw the first considerations and evaluations.
With regard to the student welfare, there are no major comments. It can be honestly said, nevertheless, that the all the staff is concerned about students and graduates, and the staff always works to optimize the welfare of students and graduates and the quality of human relationships among students and between students and staff.

5.3 SUGGESTIONS

In order to elaborate positive suggestions for improving the teaching and learning quality of the Veterinary Medicine Degree Course of the University of Bari, we need to wait the first feedbacks of the new initiatives undertaken to organise the new curriculum.
Two objectives were individuated by the advisory bodies of the veterinary course.
A short-term objective envisages the appointment of a working group charged to review all the risks deriving from the practical activities at the Vet-Campus and to prepare informative material to distribute among the students.
The other objective envisages the organization at the Vet-Campus of courses for teachers to promote the use of innovative pedagogical tools and improve the teaching quality of the courses.

6 CHAPTER

Facilities and Equipment

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CHAPTER 6 - FACILITIES AND EQUIPMENT

6.1 - FACTUAL INFORMATION

The Campus of Veterinary Medicine of Bari (Vet-Campus) lies in the Municipality of Valenzano and is located at the address Strada Provinciale per Casamassima Km 3, about 2 km far form the centre of the village. It is about 12 km away from Bari city center, where the Administrative Buildings and the humanities Degree Courses of University of Bari are located, and at about 10 km from the second main location of the scientific Degree Courses of the University of Bari (Mathematics, Chemistry, Agronomy, Pharmacy, etc.), the so called "Campus" (Figure 6.1).
A well run bus service connects the Vet-Campus to Bari city centre, which can be easily reached from Valenzano also by bicycle.
The entrance to the Vet-Campus is open from 7:00 am until 8:00 pm. Outside these hours, entrance is allowed for the needs of the Veterinary Teaching Hospital emergency (H24) and for other authorized persons. Parking for students and visitors is available outside of the Vet-Campus area, whereas those inside are reserved to the Teaching and Support Staff.

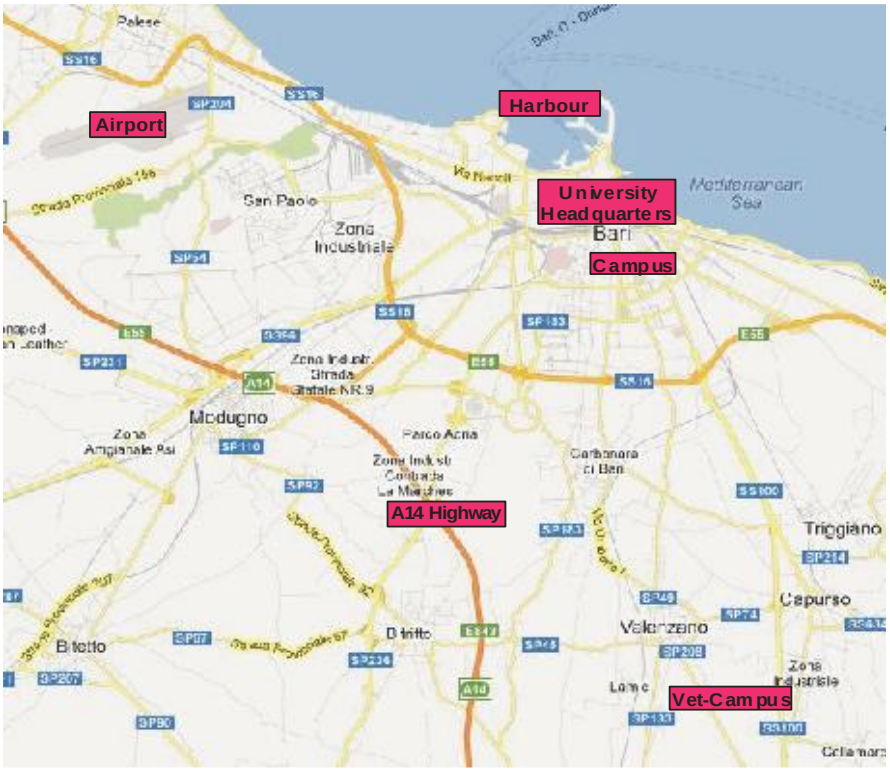

Figure 6.1 - Route map of surroundings of Bari

DISTANCES		km
VET-CAMPUS	Valenzano railway station	3
	Bari city centre (railway station and University administrative buildings)	12
	Campus	10
	A14 highway exit	15
	Airport "Karol Wojtyla"	27
	Harbor of Bari	13

6.1.1 - Premises in general

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

The Campus was built in the present location starting from 1986 and was completed in 2001 with the construction of the Veterinary Teaching Hospital. The Faculty has an extension of approximately 12 ha and consists of 6 educational and research buildings, where the services are also included, plus the Veterinary Teaching Hospital. All premises exclusively dedicated to the didactic activities are managed by the Department of Veterinary Medicine, whereas the remaining ones are allocated among the three Departments holding the teaching staff working at the Vet-Campus: the Department of Veterinary Medicine (DVM), the Department of Emergency and Organ Transplantation (DEOT) and the Department of Biosciences, Biotechnology and Biopharmaceutical (DBBB).

The Vet-Campus is located within walking distance to the University of Bari/Apulia Region Consortium "C.A.R.S.O." (*Centro di Addestramento e Ricerca Scientifica in Oncologia*, Figure 6.2), an important centre for the training and the scientific research in the oncologic field, which maintains exchanges of expertise and partnership in basic science and clinical investigation with some member of the Veterinary Medicine teaching staff and with the Archive of University of Bari.

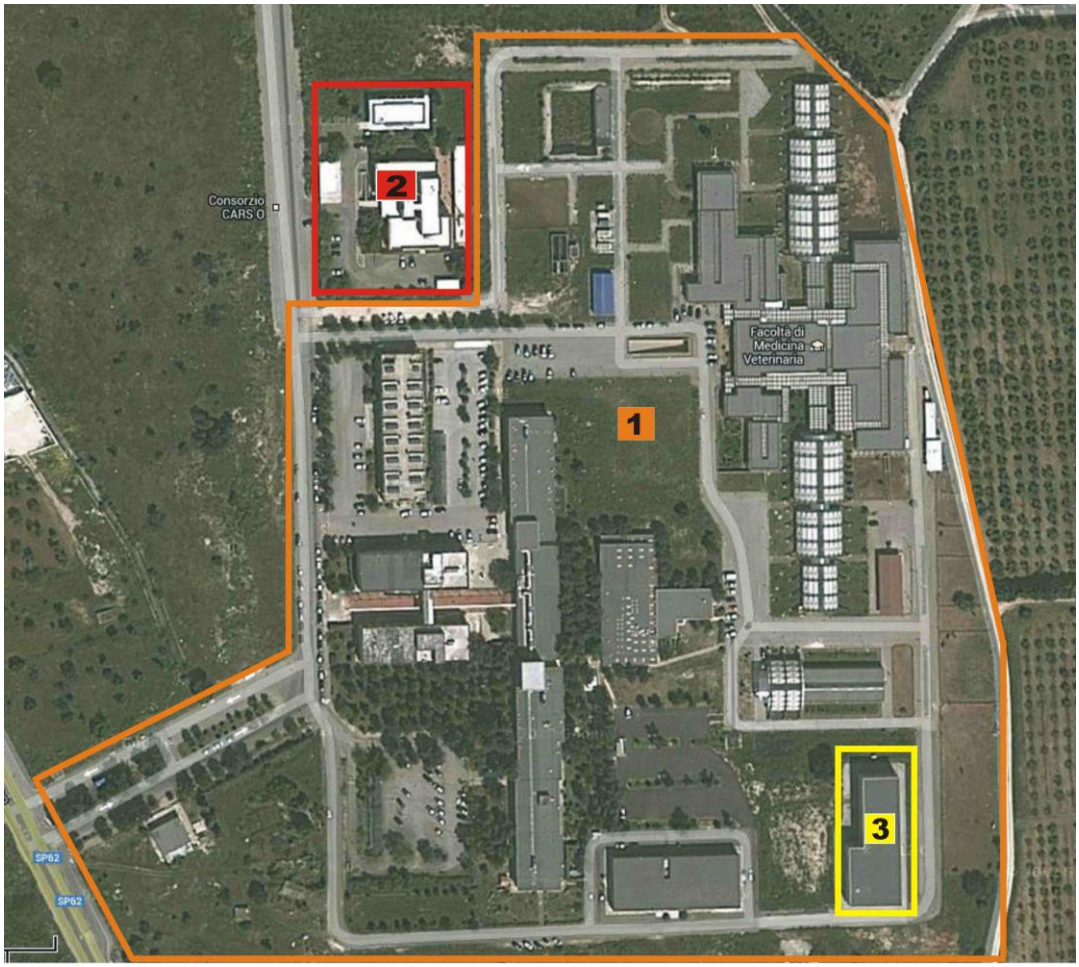

Fig. 6.2 - General layout of the Vet-Campus (aerial view). 1: Vet-Campus; 2: Carso Consortium; 3: Archive of the University of Bari; Coordinates: N 41.012636, E 16.535427

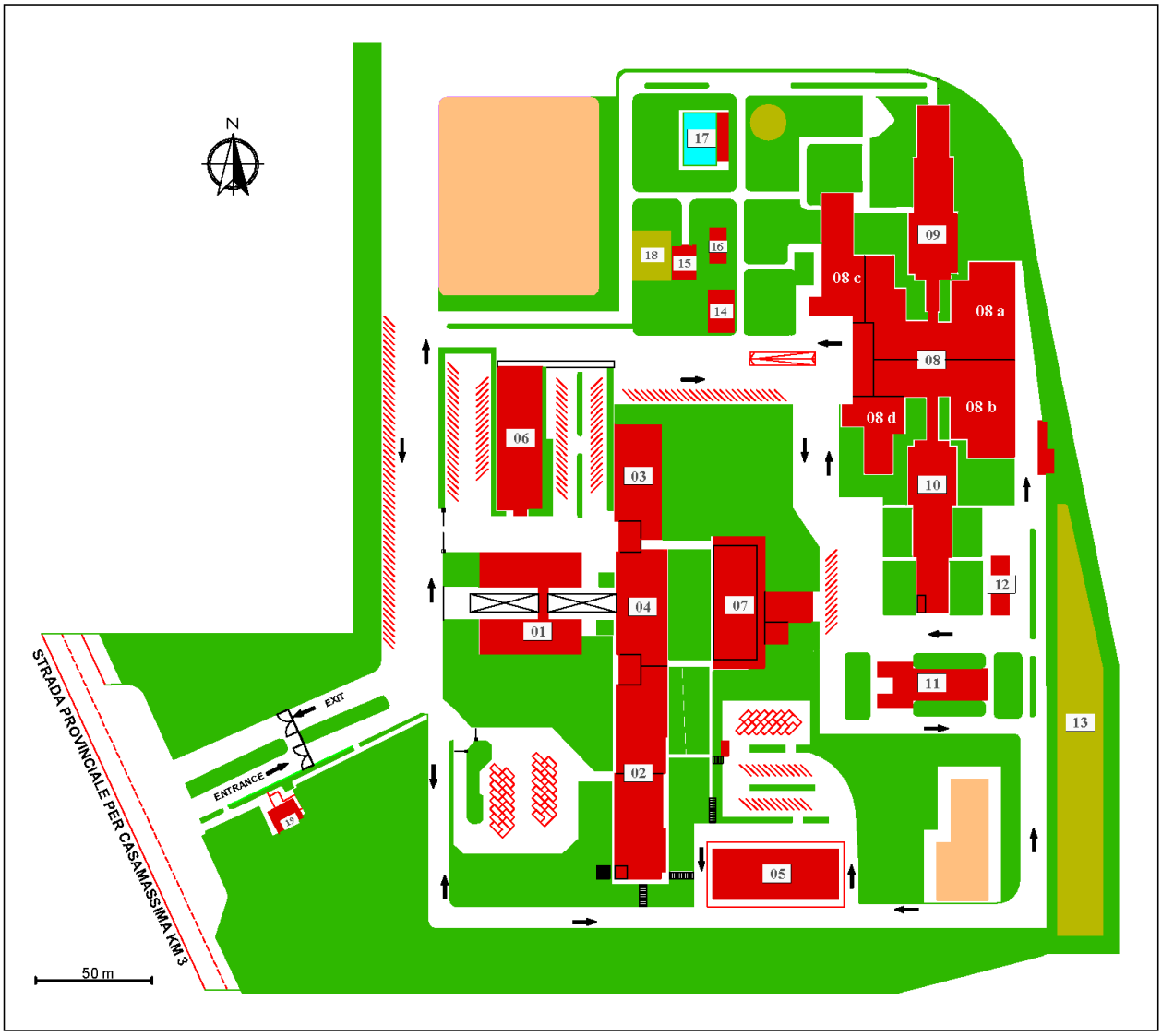

Figure 6.3 - General layout of the Vet-Campus (one-level planimetry), see legend

LEGEND

B 01: Students' secretariat, Central Library, Lecture Halls, Auditorium (*Aula Magna*), canteen, coffee bar.

B 02: *BASEMENT* - Technical service room
RAISED FLOOR - Chemistry and Biochemistry unit (DBBB), Food Safety Unit (DVM and DEOT)
FIRST FLOOR - Infectious Diseases Unit, Parasitology Unit and Food Safety Unit (DVM)

B 03: *BASEMENT* - Warehouses
GROUND FLOOR - Internal Medicine Unit (DVM and DEOT)
FIRST FLOOR - Obstetrics and Reproduction Unit (DEOT and DVM) and Physiology Unit (DVM)

B 04: *BASEMENT* **-** Student rest room and student reading room
GROUND FLOOR **-** Lecture Halls

B 05: *GROUND FLOOR* Anatomy Unit (DEOT and DVM), Avian Pathology Unit and Pathology Unit (DVM)

B 06: *BASEMENT* - Technical service room
GROUND FLOOR - Avian Pathology Unit (DMV), Anatomy Unit (DEOT and DVM), Animal Science Unit (DVM) and Surgery Unit (DEOT and DVM)
FIRST FLOOR - Pathology Unit (DVM), Educational Laboratory of Pharmacology and Toxicology Unit Animal Production and Animal science Units (DEOT and DVM)

B 07: Lecture halls

B 08: *VETERINARY TEACHING HOSPITAL*
A) Surgery Units (DEOT and DVM) and experimental animal rooms (not for educational purposes) (DEOT)
B) Internal Medicine Units (DEOT and DVM)
C) Obstetric and Animal Reproduction Units (DEOT and DVM)
D) Reference Centre for Toxicology (DVM), premises for hospitalize companion animal (DEOT and DVM)

B 09: *VETERINARY TEACHING HOSPITAL* - Premises for large animal hospitalization (Surgery and Internal Medicine Units)

B 10: *VETERINARY TEACHING HOSPITAL* - Premises for large animal hospitalization/stay (Obstetric and Animal Reproduction Unit, Animal production and Animal Science Units)

B 11: *VETERINARY TEACHING HOSPITAL* - Isolation Unit (DVM)

P 12: Paddock 1 - Equine breeding centre

P 13: Paddock 2

P 14: Poultry experimental station

B 14: Tanks storage
B 15: Treatment plants
B 16: Central air conditioning
B 17: Rainwater collection tank
B 19: Guardian's House

6.1. 2 Buildings

In the following maps, colours identify the typology of facilities according to the following codes:

BUILDING 01

This H-shaped building (Fig. 6.4a, Fig. 6.4b, total surface area 1664 sq m), consisting of two wings (North and South) connected by an elevated corridor, is arranged on two levels (ground floor and first floor) and hosts the headquarters of the didactic organizing system.

At ground floor (Figure 6.4a) are located:

North wing:

- The multimedia Auditorium (*Aula Magna*) (total surface area of 418 sq m), with 270 seats and equipped with a computerized projection system, a full-size screen, and a professional sound system. It is used for graduations, for scientific meetings and conferences and, sometime, for lectures to students.
- The canteen for students and staff of Vet-campus (total surface area of 114 sq m) with 50 seats, open from Monday to Friday from 1:00 pm to 2:30 pm
- The bar-cafeteria (total surface area of 156 sq m).

South wing:

- The Central Library, consisting of
  - reading room (001) (total surface area of 139 sq m), with 68 seats;
  - a so called "*Isola Didattica*", a multimedia work station provided with 21 computers available for students
  - four administrative offices (total surface area of 54 sq m)
  - a 92 sq m room for storing books
- Student Secretariat Office (002) consisting of
  - a 23 sq m room open to student from Monday to Friday from 10:00 am to 12:00 am and Tuesday/Thursday from 3:00 pm to 5:00 pm
  - three administrative offices (total surface area of 56 sq m)
  - an archive of 26 sq m
- 3 toilet services equipped for disabled persons.

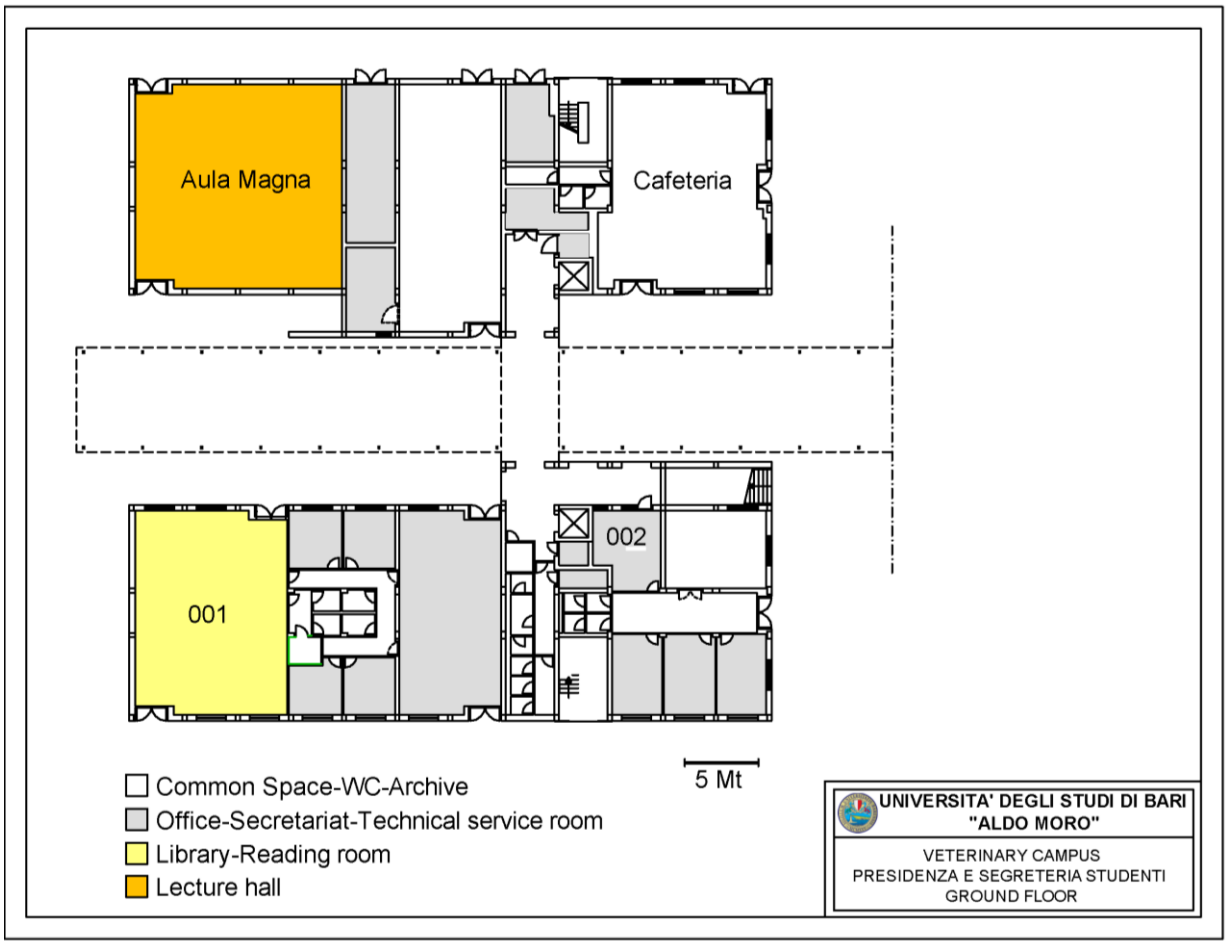

Figure 6.4a: map of B 01 ground floor

At first floor (Figure 6.4b) are located:

North wing:

- Didactic Secretariat offices of Department of Veterinary Medicine (total surface area of 93 sq m) consisting of:
  - four offices
  - one toilet service

South wing:

- 3 lecture halls:
  - a 56 sq m lecture hall Aula 7 (003) with 30 seats
  - a 73 sq m lecture hall 8 “M. Mastronardi” (004) with 50 seats
  - a 149 sq m lecture hall 9 “P. Minoia” (005) with 142 seats
- a meeting room of 55 sq m equipped with multimedia services
- a toilet service equipped for disabled people

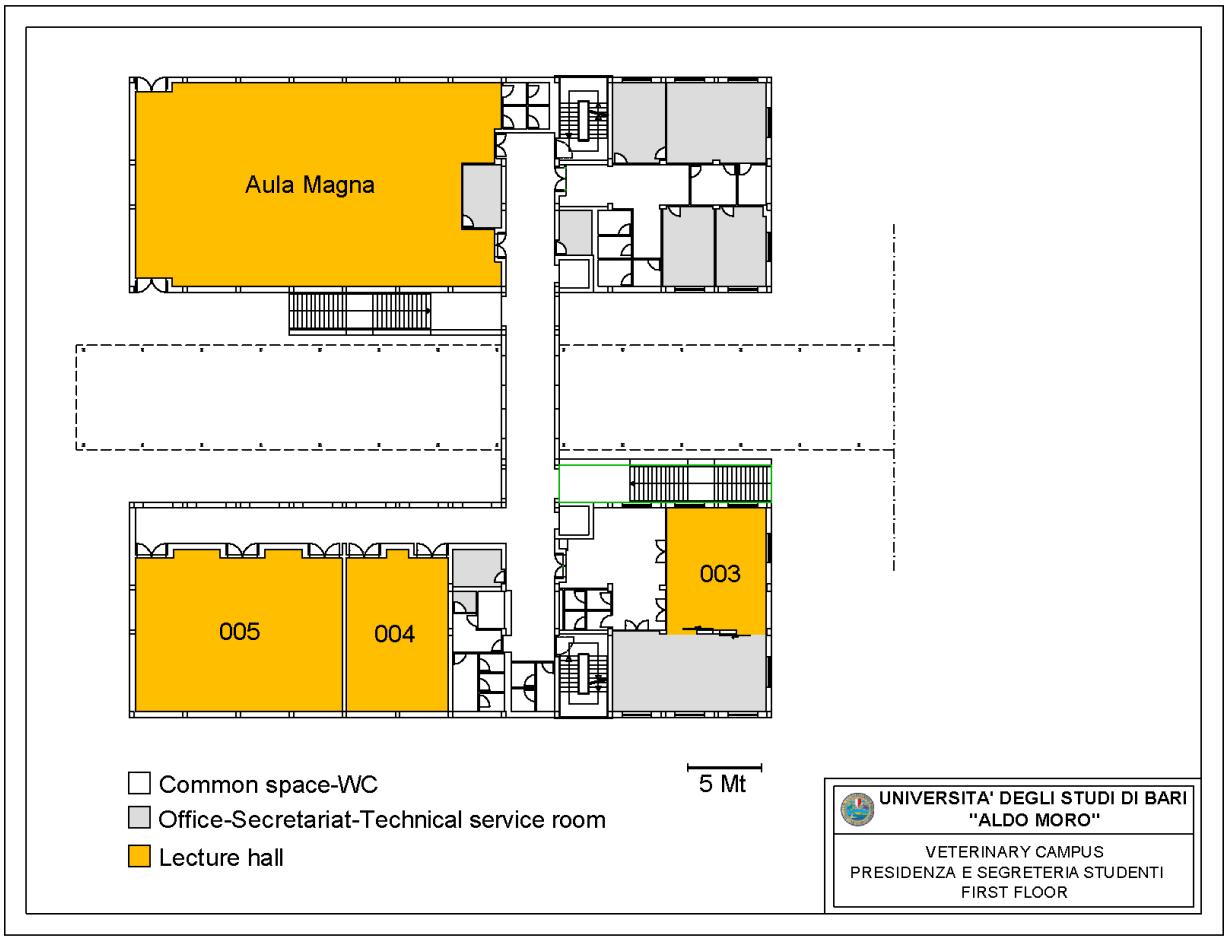

Figure 6.4b: map of B 01 first floor

BUILDING 02

This building (Fig. 6.5a, Fig. 6.5b, Fig. 6.5c, total surface area 1854sq m), arranged on three levels (basement, ground floor, first floor), contains offices and research and educational laboratories of the Chemistry and Biochemistry Unit (DBBB) and Food Safety Unit (DVM) in the ground floor and offices and research and educational laboratories of the Infectious Diseases, Parasitology and Food Safety Units (DVM) in the first floor.

At the basement (Figure 6.5a) are located:

- waterworks, electrical cabinet, transformer substation and others technical service rooms

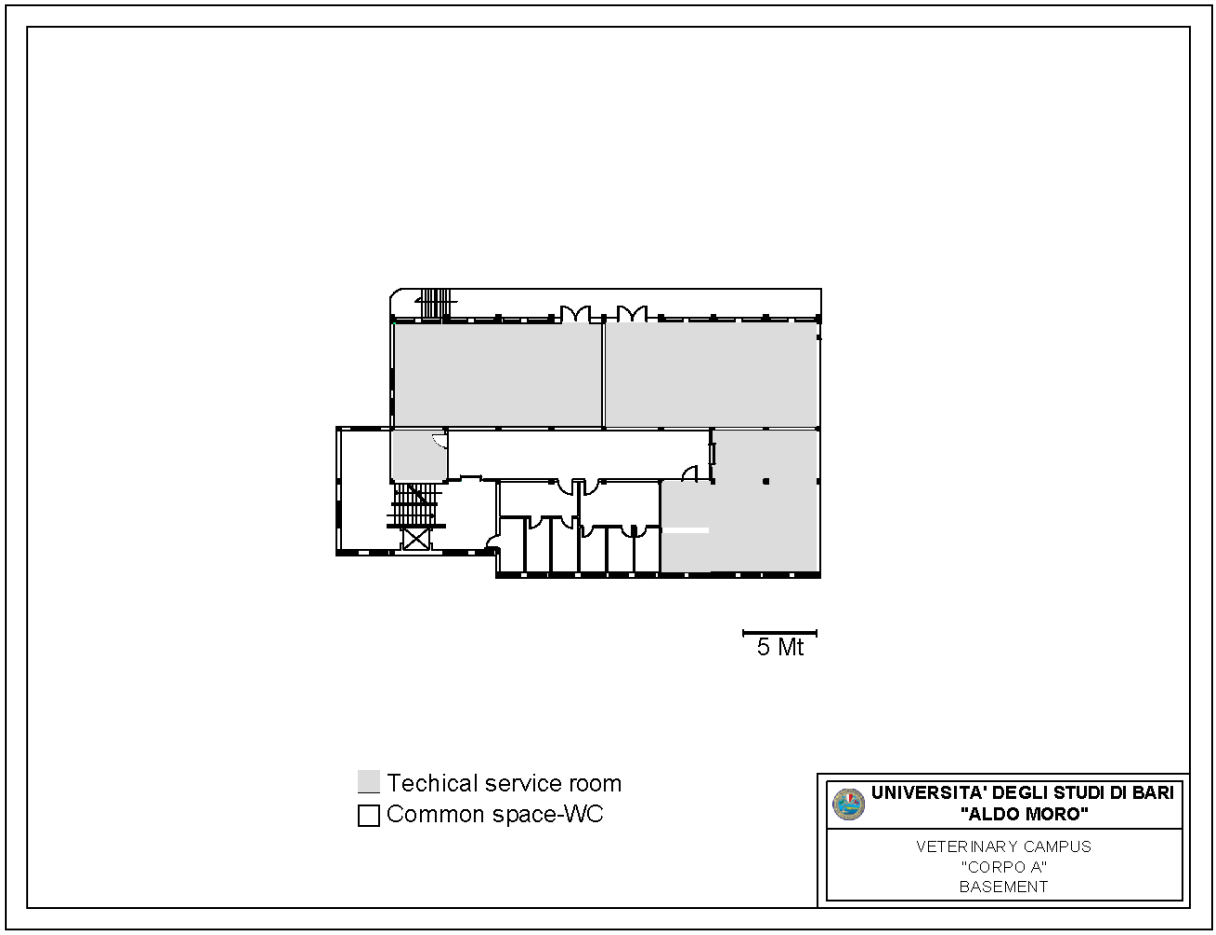

Figure 6.5a: map of B 02 basement

At ground floor (Figure 6.5b) are located:

On the left side premises and facilities of the Chemistry and Water Analysis Unit (DBBB)

- five offices (total surface area of 115 sq m)
- a Reading room (008) with 10 seats (total surface area of 32 sq m)
- seven (total surface area of 192 sq m) research laboratories (001, 003, 019, 020,021 022 023) for determinations of environmental pollutants, POCs, PCBs, Dioxins Dibenzofurans, Bulk Gases, Gas Chromatography and HPLC
- a room (002) with ventilated cabinets (total surface area of 21 sq m)
- a 77 sq m research and educational laboratory for food fat matrix extraction laboratory (018) for 20-students groups
- a toilet service

On the right side premises and facilities of the Food Safety Unit (DVM)

- six (total surface area of 201 sq m) research and educational Food Analysis Laboratories. Food Microbiology Laboratory (025), Sterilisation and Culture Media Preparation lab. (026), Histological and Histopathological lab. (027), Proximate Analysis and Xenobiotics Characterization lab (028) (each of these laboratories can host 15 students), Molecular Biology lab. (036) for a ten-student group and honey processing lab. (029)
- a 19 sq m reading room (038) with 15 seats
- six offices (total surface area of 145 sq m)
- a 20 sq m secretariat office of the post-graduated School in "Inspection of foodstuff of animal origin"
- a toilet service also for disabled people

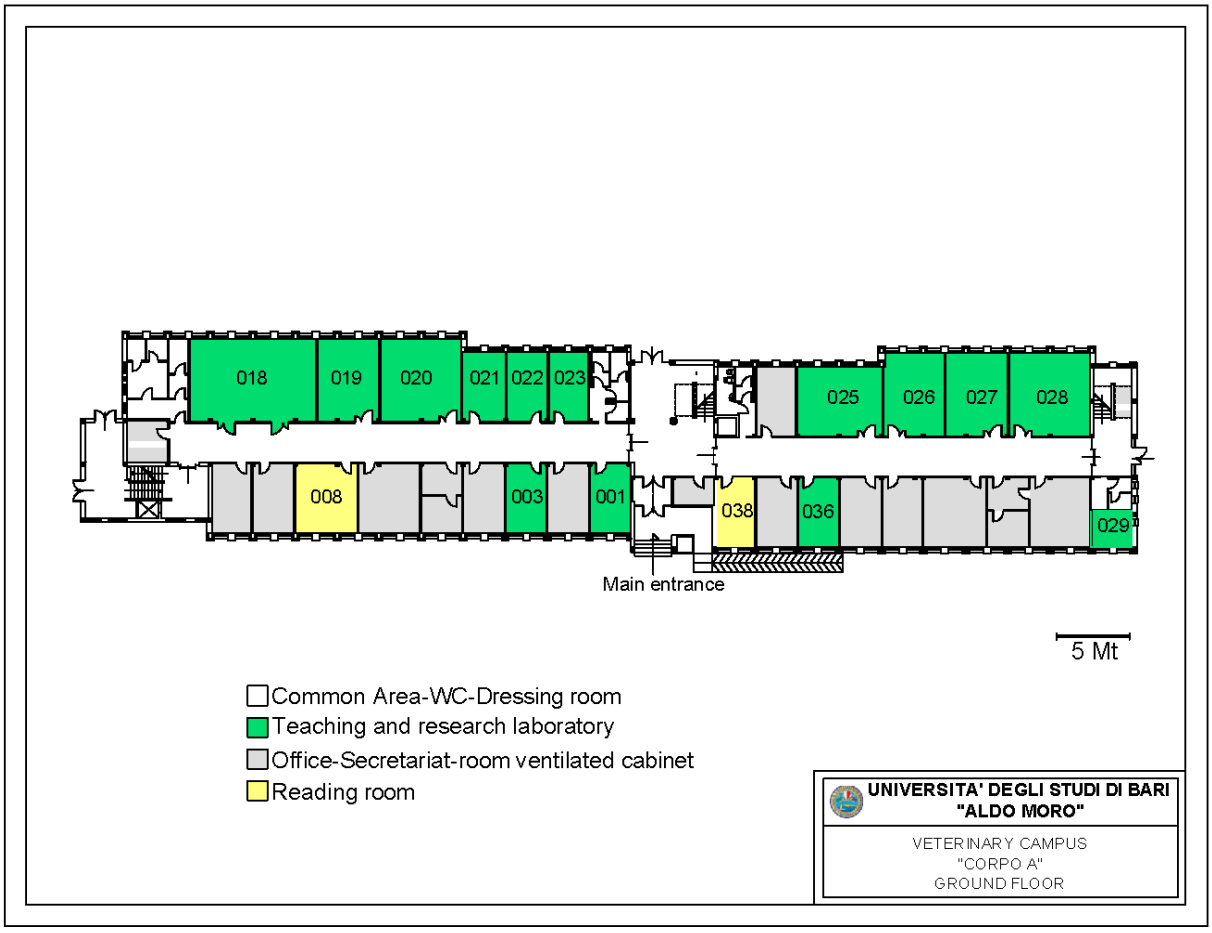

Figure 6.5b: map of B 02 ground floor

At first floor (Figure 6.5c) are located:

- premises and facilities of the Infectious Diseases Unit:
  - seven offices (total surface area of 162 sq m)
  - a 50 sq m reading room (016) with 25 seats
  - a staff rest room with toilet service (35 sq m)
  - a 19 sq m secretarial office of the Specialization School of “Infectious Diseases of Animals”
  - three research and educational Molecular Biology laboratories (total surface area of 114 sq m), the first one (035) equipped with PCR cyclers, vertical laminar flow cabinet, -20°C freezers, fridges, the second one (032) equipped with cytofluorimeter, and chemical

cabinet (each of these laboratories can host 5 students) and the third laboratory (014) (for 10-student groups) equipped with cabinets, PFGE and conventional gel-electrophoresis equipment
- a 20 sq m centrifuges room (023) equipped with centrifuges, ultracentrifuges, waterbaths that can host 6-student groups
- two (total surface area of 51 sq m) research and educational Virology laboratories (024, 034) equipped with vertical laminar flow cabinets, fluorescence microscopes, CO_2 incubators, plate reader spectrophotometer, -20°C freezers, that can host 10 and 5-student groups respectively
- a 49 sq m research and educational Bacteriology laboratory (025) for 10-student groups equipped with vertical laminar flow cabinet, incubator, microscopes, -20°C freezers and electrophoresis equipment
- a 32 sq m research and educational Sterilization Unit (033) for 5-student groups equipped with autoclave, heathers reverse osmosis H20, -20°C freezers, safety cabinet
- a 21 sq m Cell Unit Laboratory (036) for 4-student groups equipped with vertical laminar flow cabinet, incubator and microscope
- a 21 sq m educational and research Serology laboratory (037) for 5-student groups equipped with vertical laminar flow cabinet, real-time PCR cyclers and -20°C freezers
- a toilet service

- premises and facilities of the Parasitology Unit:
  - four offices (total surface area of 83 sq m)
  - a 21 sq m educational and research Molecular Biology laboratory (007) for 6-student groups
  - a 22 sq m educational and research Mycology laboratory (008) for six-group student
  - a 51 sq m educational and research Entomology, Serology and Coprology laboratory (015) for 10-student group
  - a toilet service

- premises and facilities of the Food Safety Unit
  - an office of 20 sq m
  - two (total surface area of 92 sq m) research and educational Food Microbiology (027) and Molecular Biology (030) laboratories, that can host 15-student groups each
  - a toilet service

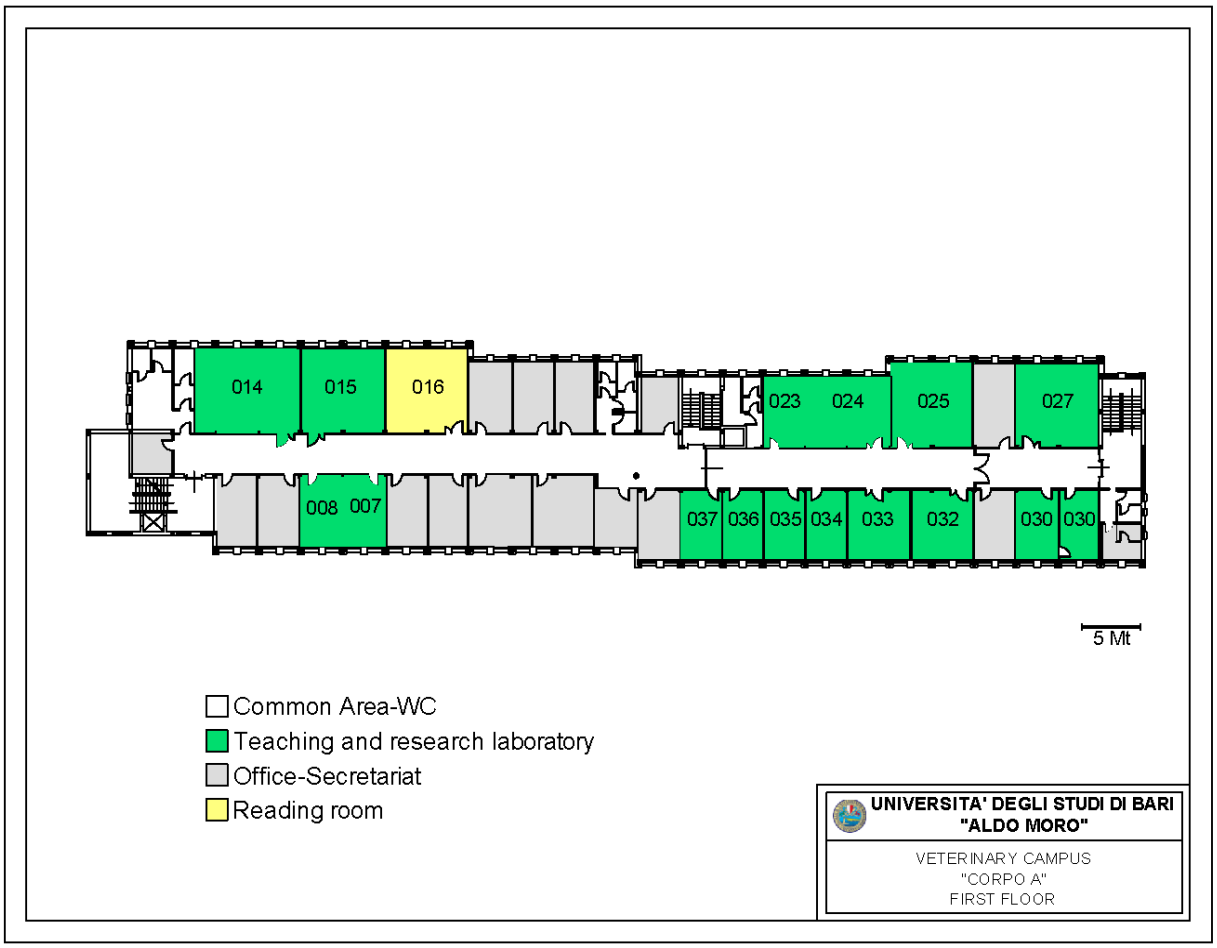

Figure 6.5c: map of B 02 first floor

BUILDING 03

This building (Fig. 6.6a, Fig. 6.6b, Fig. 6.6c, total surface area of 1163 sq m), arranged on three levels (basement, ground floor, first floor), contains offices and research and educational laboratories of the Internal Medicine Unit (DEOT-DVM), Obstetrics and Reproduction Unit (DEOT-DVM) and Physiology Unit (DEOT-DVM)

At the basement (Figure 6.6a) are located:

- three warehouses (total surface area of 260 sq m)
- an archive of 60 sq m

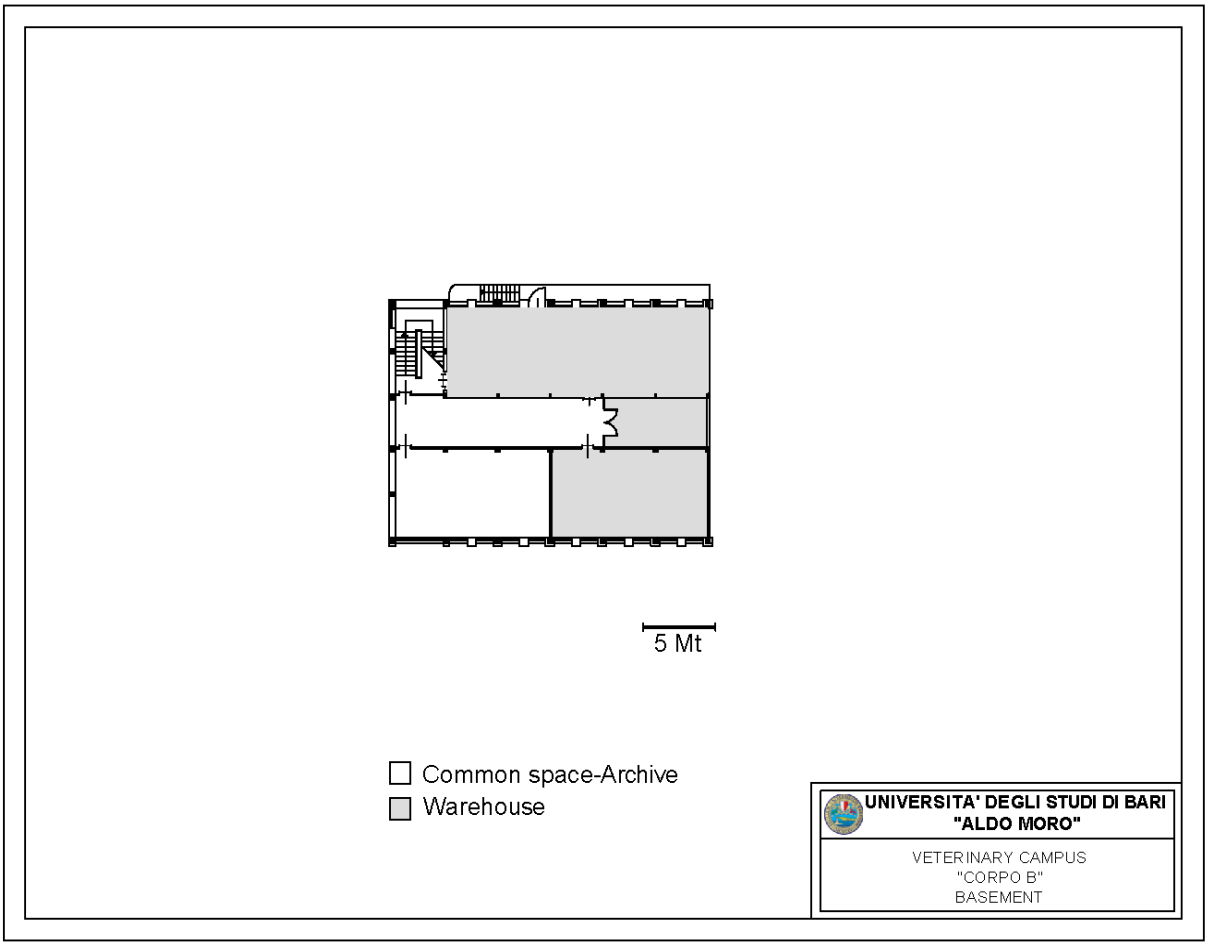

Figure 6.6a: map of B 03 basement

At ground floor (Figure 6.6b) are located:

- premises and facilities of the Internal Medicine Unit:
  - nine offices (total surface area of 200 sq m)
  - a reading room (013) with 10 seats
  - a 32 sq m research Molecular Biology laboratory (014)
  - a 42 sq m research and educational Clinical Chemistry laboratory (015) equipped with spectrophotometer, clinical chemistry analyzer, centrifuges, electrophoresis equipment, able to host 15-student groups
  - a 41 sq m research and educational Haemathology and Cytology laboratory (016) equipped with spectrophotometer, cytospin, optical microscopes for 15-student groups
  - a toilet service

- a 35 sq m student Meeting Room (025)
- a toilet service equipped for disabled person

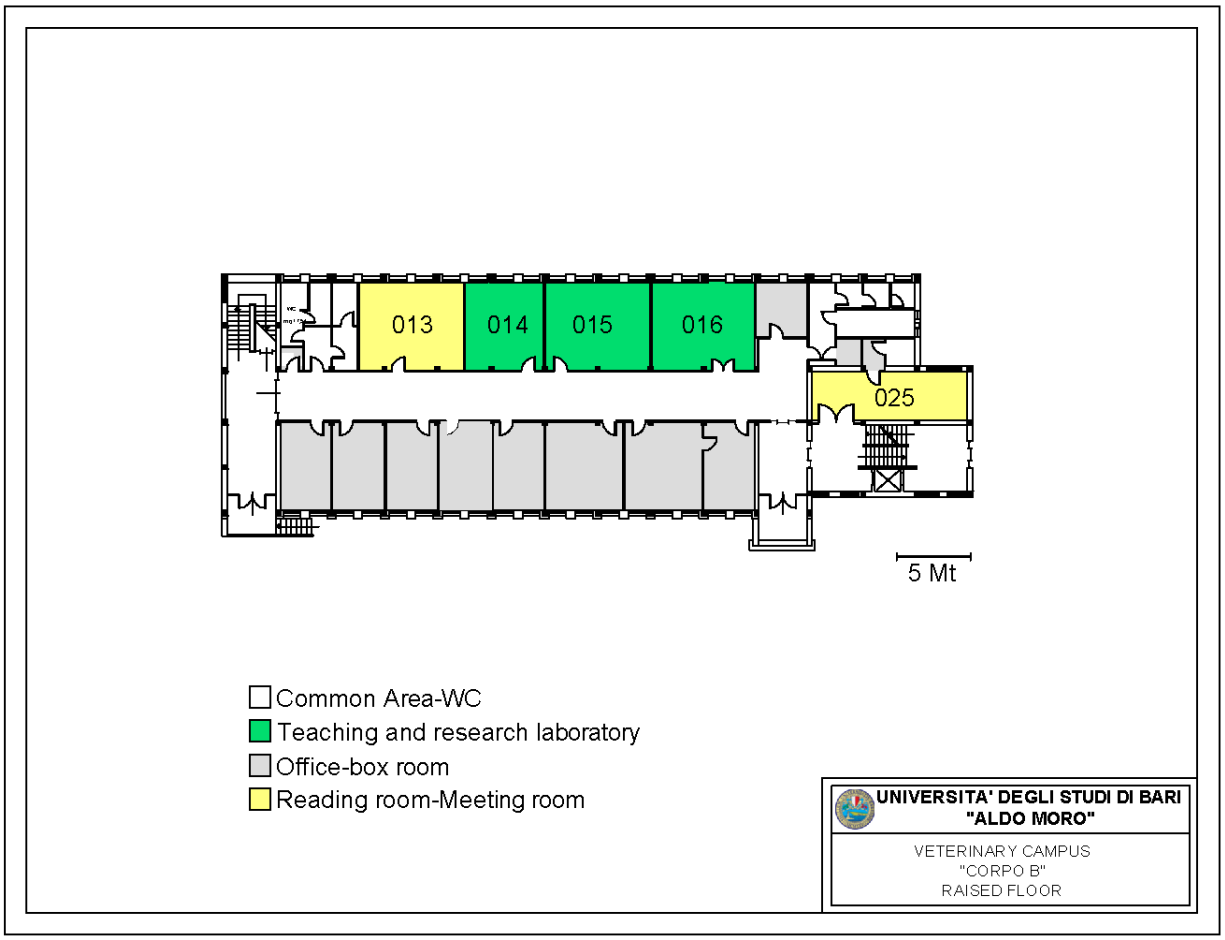

Figure 6.6b: map of B 03 ground floor

At first floor (Figure 6.6c) are located:

- premises and facilities of the Obstetrics and Reproduction Unit:
  - twelve offices (total surface area of 268 sq m)
  - a 42 sq m reading room (025) for 15 students
  - the Secretariat Office (20 sq m) of the Specialization School in "Physiopathology of Reproduction of Domestic Animals"
  - a toilet service

- premises and facilities of the Physiology Unit:
  - four offices (total surface area of 82 sq m)
  - a 21 sq m research and educational Molecular Biology laboratory (010) for 8- student groups equipped with Quanticell
  - a toilet service equipped for disabled people

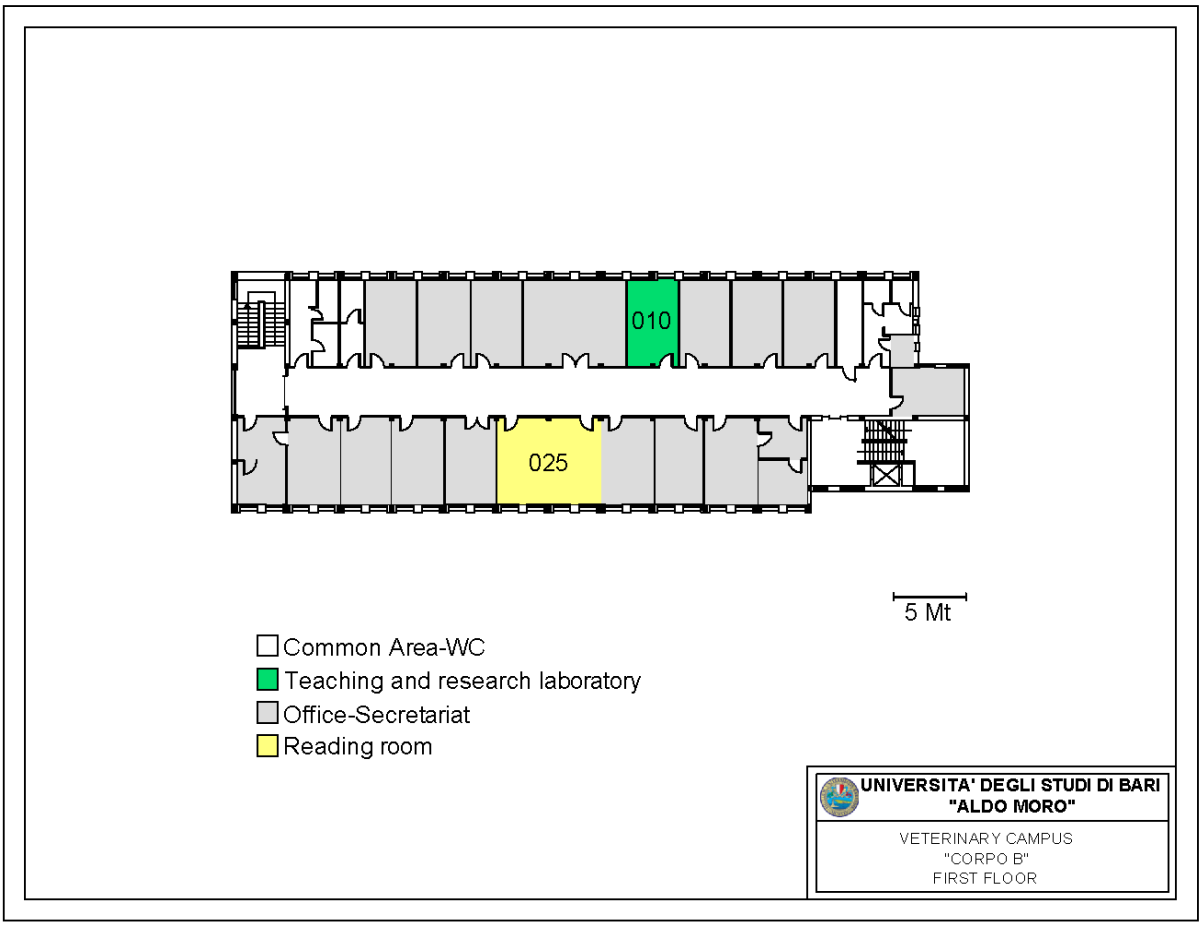

Figure 6.6c: map of B 03 first floor

BUILDING 04

This building (Fig. 6.7a, Fig. 6.7b, total surface area of 1024 sq m) is arranged on two levels (basement, ground floor) and houses lecture halls and student living room

At the basement (Figure 6.7a) are located:

- a 151 sq m student rest room “Caterina Carelli” (001), entitled to a student who died in a car accident, which is open every afternoon from 2:00 pm to 8:00 pm equipped with television, ping-pong table, and other playtime goods
- a 42 sq m student reading room (002) with 20 seats

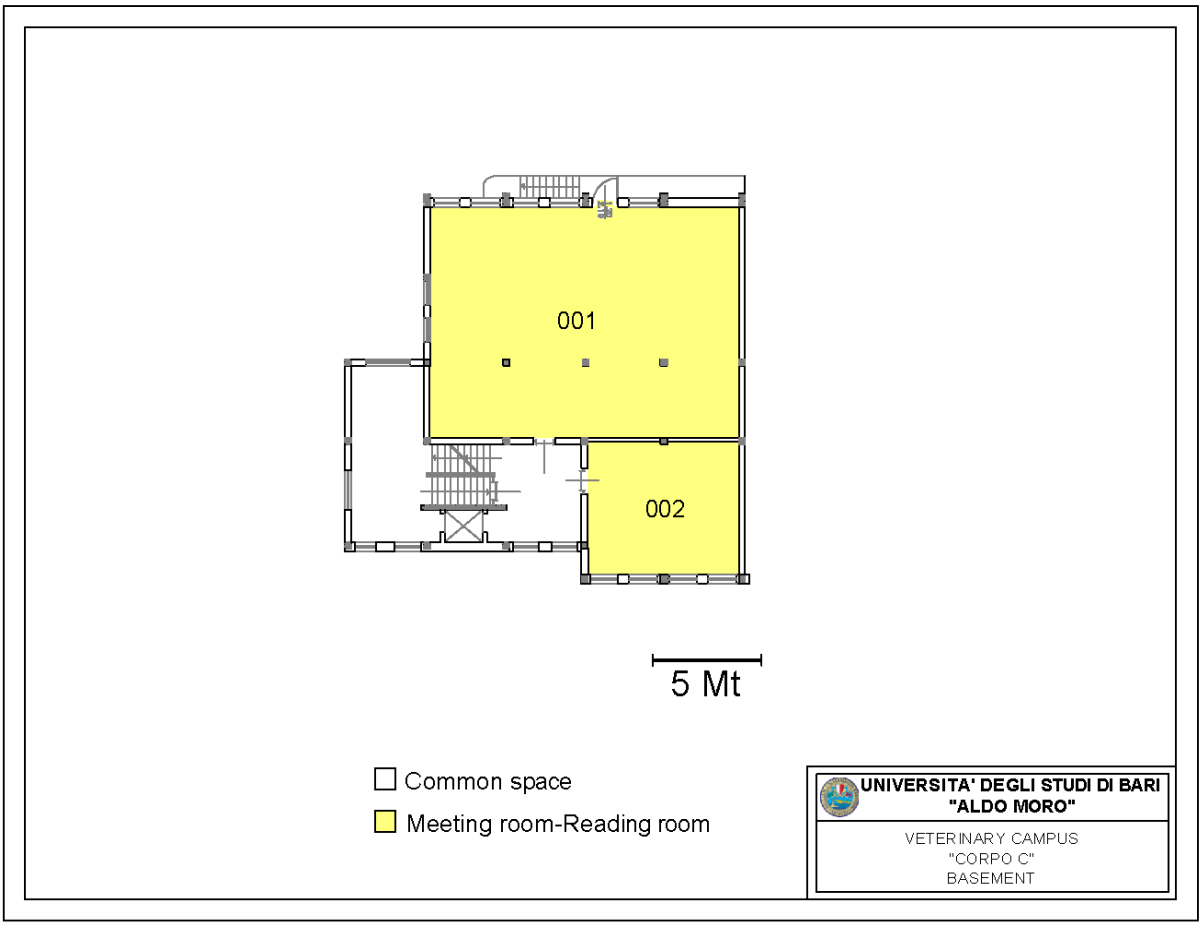

Figure 6.7a: map of B 04 basement

At ground floor (Figure 6.7b) are located:

- five lecture halls all equipped with multimedia systems:
  - a 150 sq m lecture hall 1 “B. Terio” (001) with 140 seats
  - a 26 sq m lecture hall 2 (002) with 15 seats
  - a 111 sq m lecture hall 3 “M. Compagnucci” (003) with 90 seats
  - a 26 sq m lecture hall 4 (004) with 15 seats
  - a 111 sq m lecture hall “G. Tiecco” (005) with 90 seats

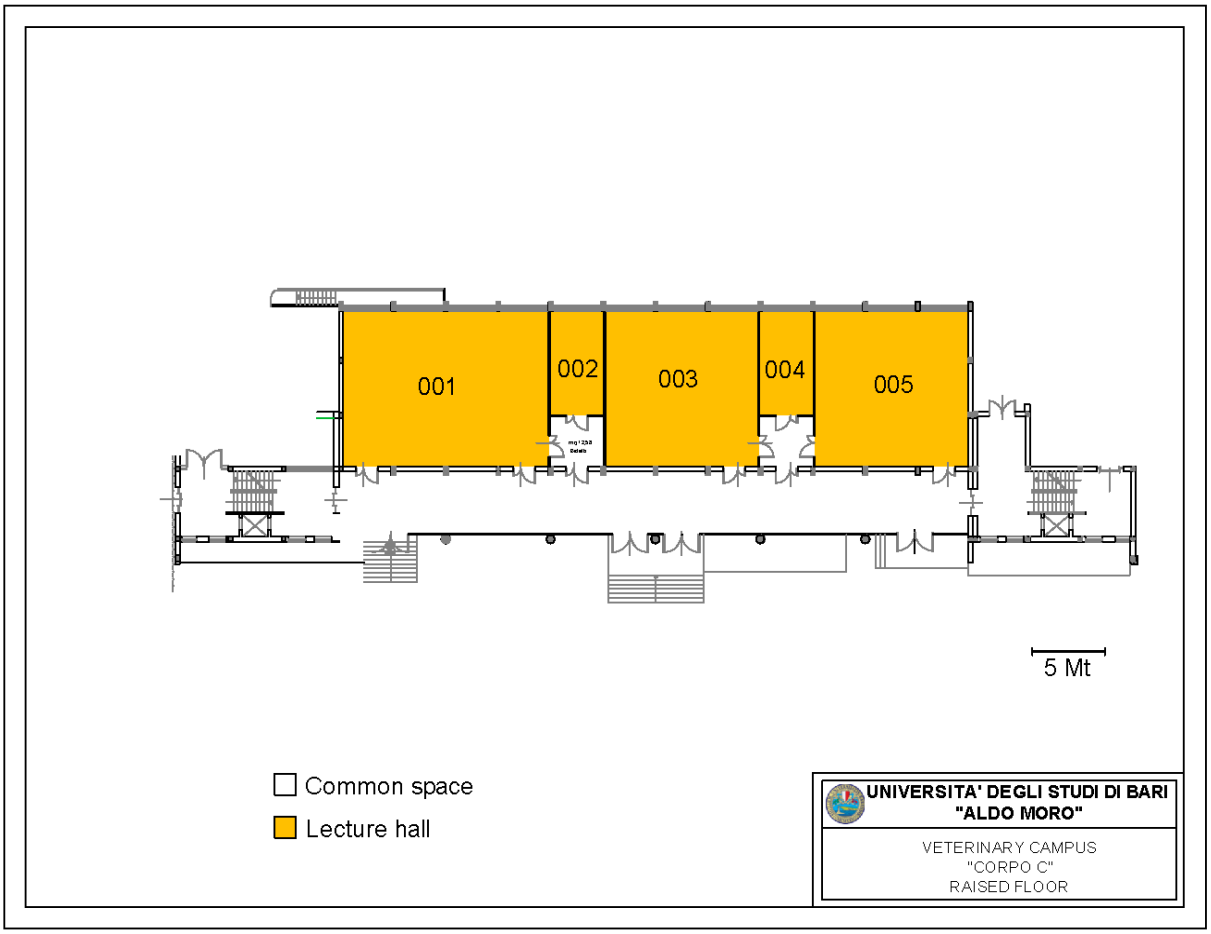

Figure 6.7b: map of B 04 raised floor

BUILDING 05 (also known as “Vinci pavilion”)

This one-floor building (Fig. 6.8, total surface area of 1010 sq m) houses offices and research and educational laboratories of the Veterinary Anatomy (DVM-DEOT), Pathology (DVM) and Avian Pathology (DVM) Units.

- Premises and facilities of the Veterinary Anatomy Unit:
  - six offices (total surface area of 76 sq m)
  - a 19 sq m reading room (005) with 5 seats
  - a 14 sq m research Molecular Biology laboratory (004)
  - a 46 sq m research and educational Immunocytochemistry laboratory (006) equipped with safety cabinet, microtome, distiller, 10 microscopes and stereomicroscope for 15-student groups
  - a 32 sq m research and educational Scanning Electron Microscopy laboratory (007) equipped with cryostat, critical point dryer, automatic sputter coater and scanning electron microscope for 7-student groups
  - a 79 sq m research and educational Histochemistry and Immunohistochemistry Laboratory (026), equipped with ventilated chemical hood, paraffin embedding heater, Isomet saw, magnetic stirrer, refrigerator, optical microscope, freezer, two balances, microwave, chemical filtration hood for 10-student groups
  - a 33 sq m research and educational Morphology Laboratory (027) equipped with 8 microscopes, stereomicroscope, rotary microtome and educational microscope for 10-student group
  - a 117 sq m dissecting anatomy room (019) with shower; this room is equipped with 1 anatomic table directly connected with discharge, 11 anatomic dissecting tables, each serving a 5-student station and 2 tables with 18 microscopes; one of these microscope is equipped with video-camera and connected to a monitor for student teaching and discussion
  - a 9 sq m refrigerated room
  - two toilet services, one of which shared by all Units and equipped with changing room and shower

- Premises and facilities of the Pathology Unit:
  - a 116 sq m Necropsy room (018) with shower; this room is equipped with 5 dissection tables for a total of 40-student groups and with a tool for lifting the carcasses of large animals
  - two freezer rooms for a total of 24 sq m

- Premises and facilities of the Avian Pathology Unit:
  - a 73 sq m research and educational Necropsy laboratory (022) with shower; this room is equipped with 3 dissection tables each suitable for 7-student groups, egg incubator and -80°C freezer
  - a research and educational Bacteriology Laboratory (015, 44 sq m) with shower for 10-student groups.

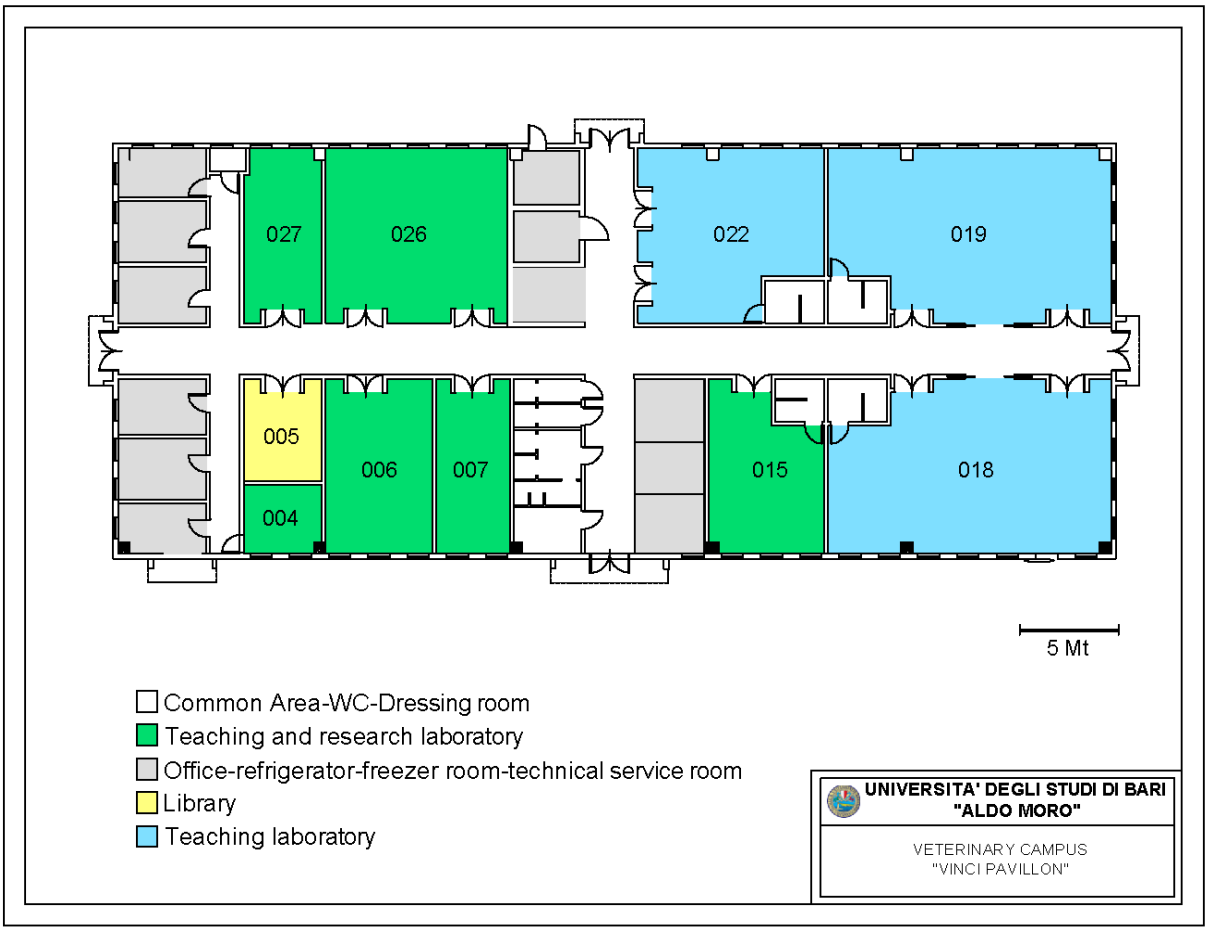

Figure 6.8: map of B 05

BUILDING 06

This building (Fig. 6.9a, Fig. 6.9b, Fig. 6.9c, total surface area of 1601 sq m) is arranged on three levels (basement, ground floor, first floor) and contains offices and research and educational laboratories of the Avian Pathology, Anatomy, Surgery, Pathology, Pharmacology and Toxicology, Animal Production and Animal Sciences Units (DMV and DEOT).

At the basement (Figure 6.9a) are located:

- two Technical Service rooms (total surface area of 80 sq m)

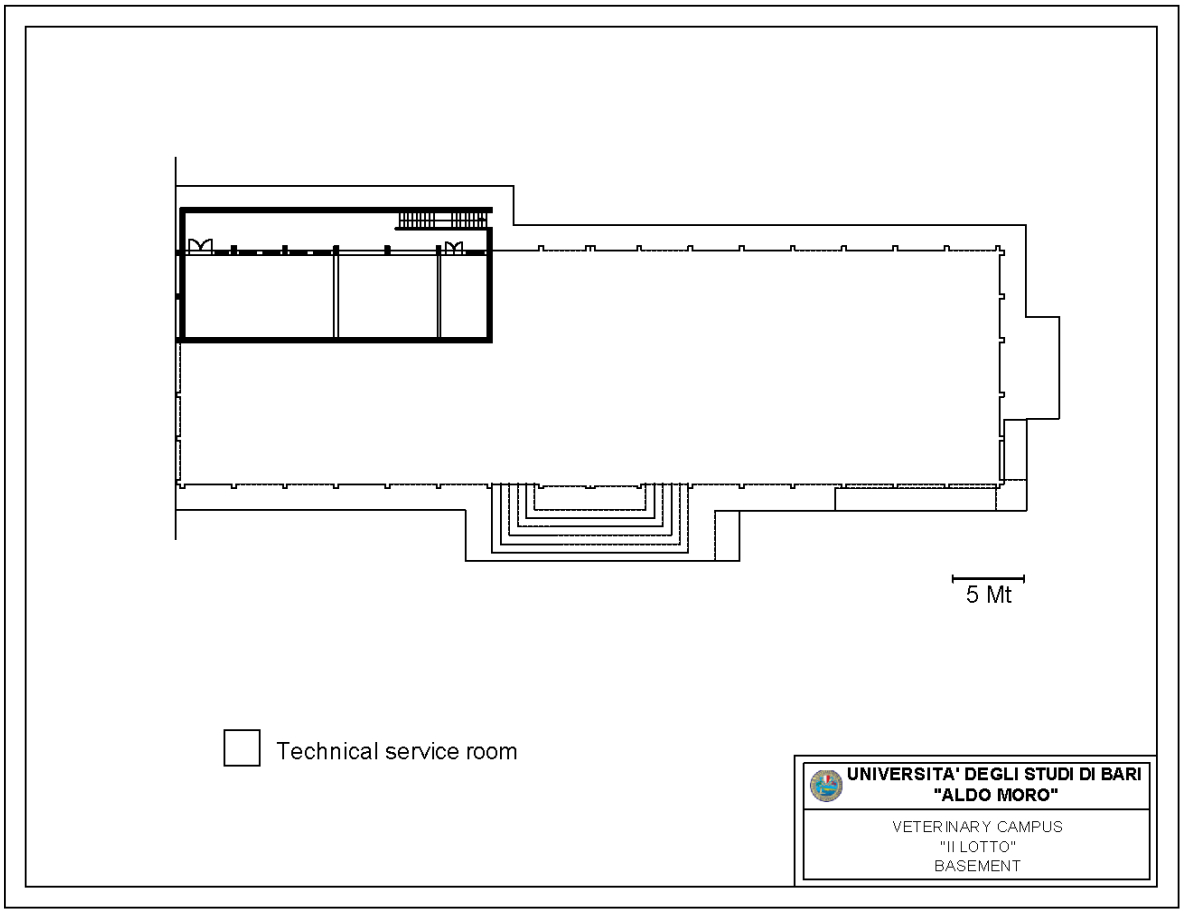

Figure 6.9a: map of B 06 basement

At the ground floor (Figure 6.9b) are located:

- Premises and facilities of the Avian Pathology Unit
  - two offices (total surface area of 39 sq m)
  - four research and educational laboratories (total surface area of 77 sq m) for Clinic Examination (001) of pet birds and rabbits equipped with counter, Molecular Biology (003) equipped with centrifuge, PCR instruments, ventilated chemical cabinet, Serology and Bacteriology (019) equipped with thermostat, water bath, refrigerator, microscope, Glassware and Media preparation (020) equipped with autoclave, distiller, refrigerators, glassware washer, each of them arranged for 10-student groups
  - a 19 sq m research Molecular Biology laboratory (002)
  - a toilet service equipped for disabled persons

- Premises and facilities of the Anatomy Unit:
  - six offices (total surface area of 133 sq m)
  - a 39 sq m research and educational Microscopes laboratory (016) equipped with light microscope and imaging analyzer provided with video-camera and connected to a monitor and fluorescence microscope
  - a toilet service

- Premises of Rural Economic Unit
  - a 19 sq m office

- Premises of Surgery Unit:
  - seven offices (total surface area of 129 sq m)
  - a toilet service

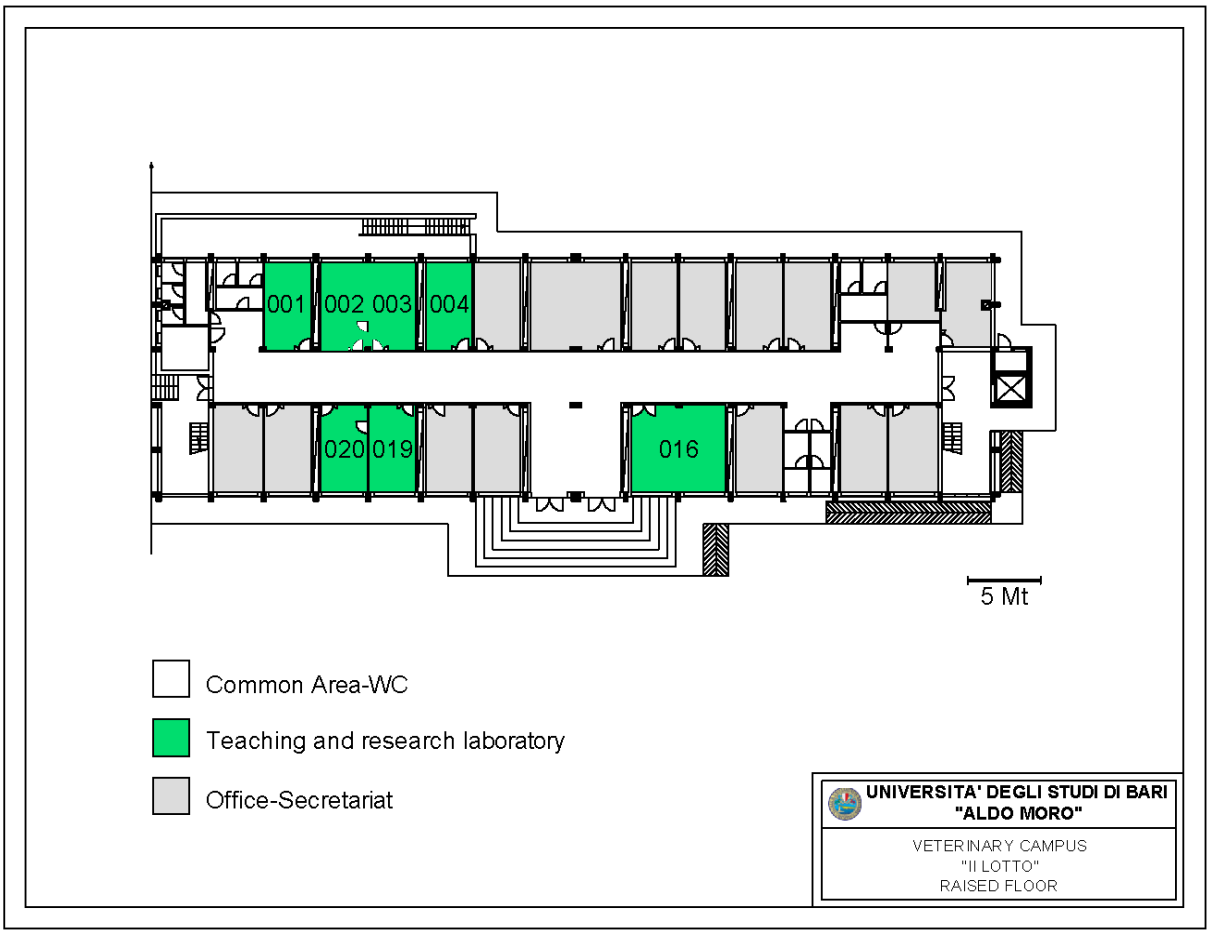

Figure 6.9b: map of B 06 raised floor

At the first floor (Figure 6.9c) are located:

- Premises and facilities of the Pathology Unit:
  - four offices (total surface area of 78 sq m)
  - two research and educational laboratories (total surface area of 38 sq m) of Histopathology and Oncology 1 (023) and 2 (024), equipped with ultramicrotome, microtome, softener and fixer machine, two histochinetes, -80°C freezer, refrigerator, centrifuge, ventilated chemical cabinet, each hosting 10-student groups
  - a toilet service

- Premises and facilities of the Pharmacology and Toxicology Unit:
  - four offices (total surface area of 76 sq m)
  - three research laboratories (total surface area of 77 sq m): Bio-Analytics (044), Isolated Organs (045) and Cells Culture (046) laboratories

- Premises and facilities of the Animal Sciences Unit:
  - six offices (total surface area of 115 sq m)
  - a 20 sq m reading room (032)
  - a 19 sq m research and educational laboratory of Aquaculture and Cells Culture (029/1) equipped with refrigerated CO_2 incubator, laminar air vertical flow, microscope, autoclave, centrifuge, ventilated chemical cabinet. This lab can host 10-student groups.
  - a 19 sq m research and educational laboratory of Spectrophotometry (033) equipped with spectrophotometer and HPLC and hosting up to 10-student groups.

- Premises and facilities of the Animal Production Unit:
  - three offices (total surface area of 58 sq m)
  - a 18 sq m research and educational Genetics and Molecular Biology laboratory (029) equipped with Phormagraph, ventilated chemical cabinet, PCR instruments, able to host 10-student groups
  - a 19 sq m research and educational Food Analysis laboratory (030/1) equipped with oven, drying oven, fiber analyzer and ventilated chemical cabinet, able to host 10-student groups.
  - a toilet service

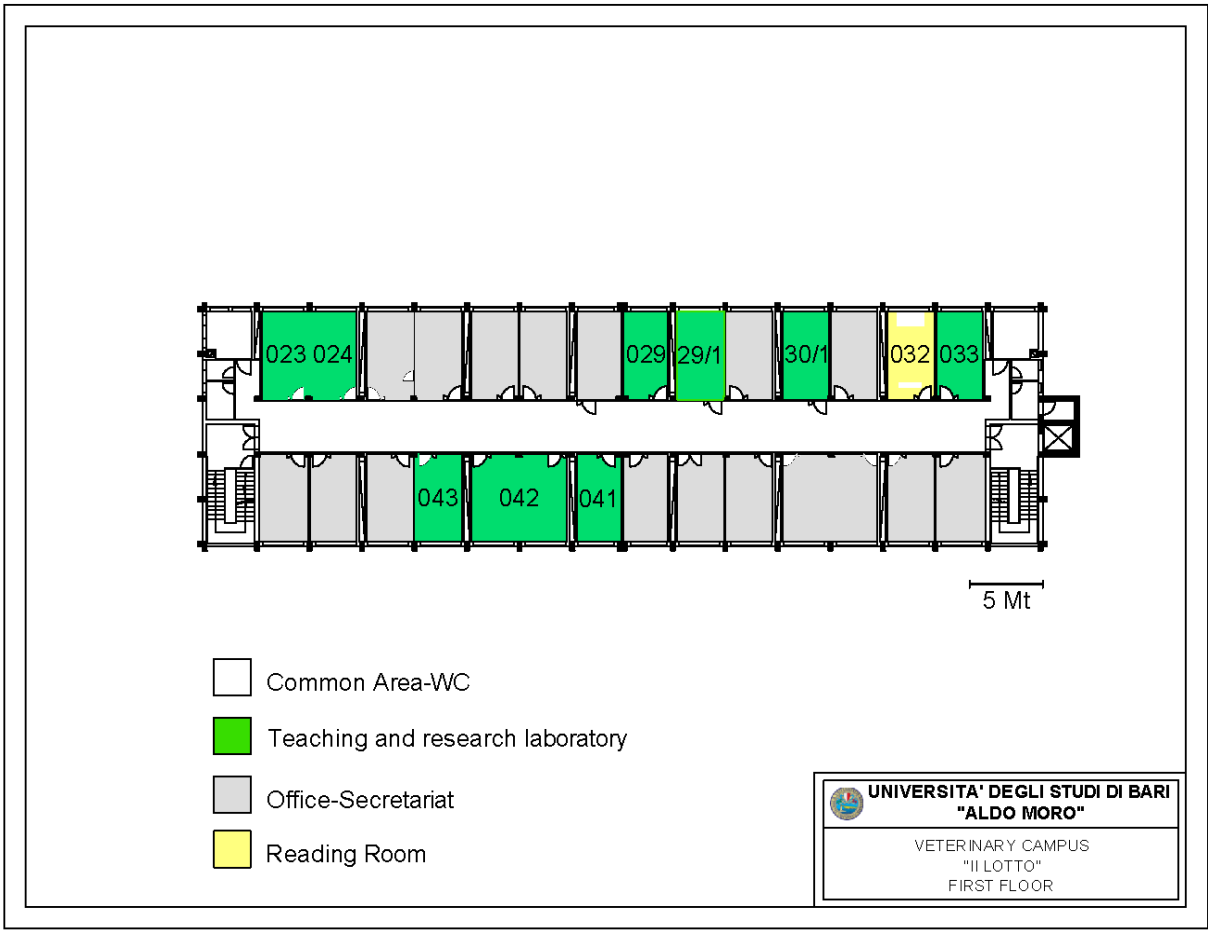

Figure 6.9c: map of B 06 first floor

BUILDING 07

Most rooms of this one-floor building (Figure 6.10, total surface area of 1323 sq m) are currently close waiting the realization of the already approved restructuring plan (see Chapter 3 - Finances).

At this moment, the usable premises are:

- a 36 sq m lecture hall 10 (001) with 20 seats
- a 36 sq m lecture hall 11 (002) with 20 seats
- a 32 sq m lecture hall 12 (003) with 20 seats
- three department offices not shown on the map (total surface area of 58 sq m)
- a toilet service equipped for disabled people

- The under restructuring premises are:
  - six offices
  - a lecture hall with 70 seats
  - two large educational laboratories
  - five research and educational laboratories
  - a guest house with 4 bedrooms, bathrooms, shared kitchen and dining room

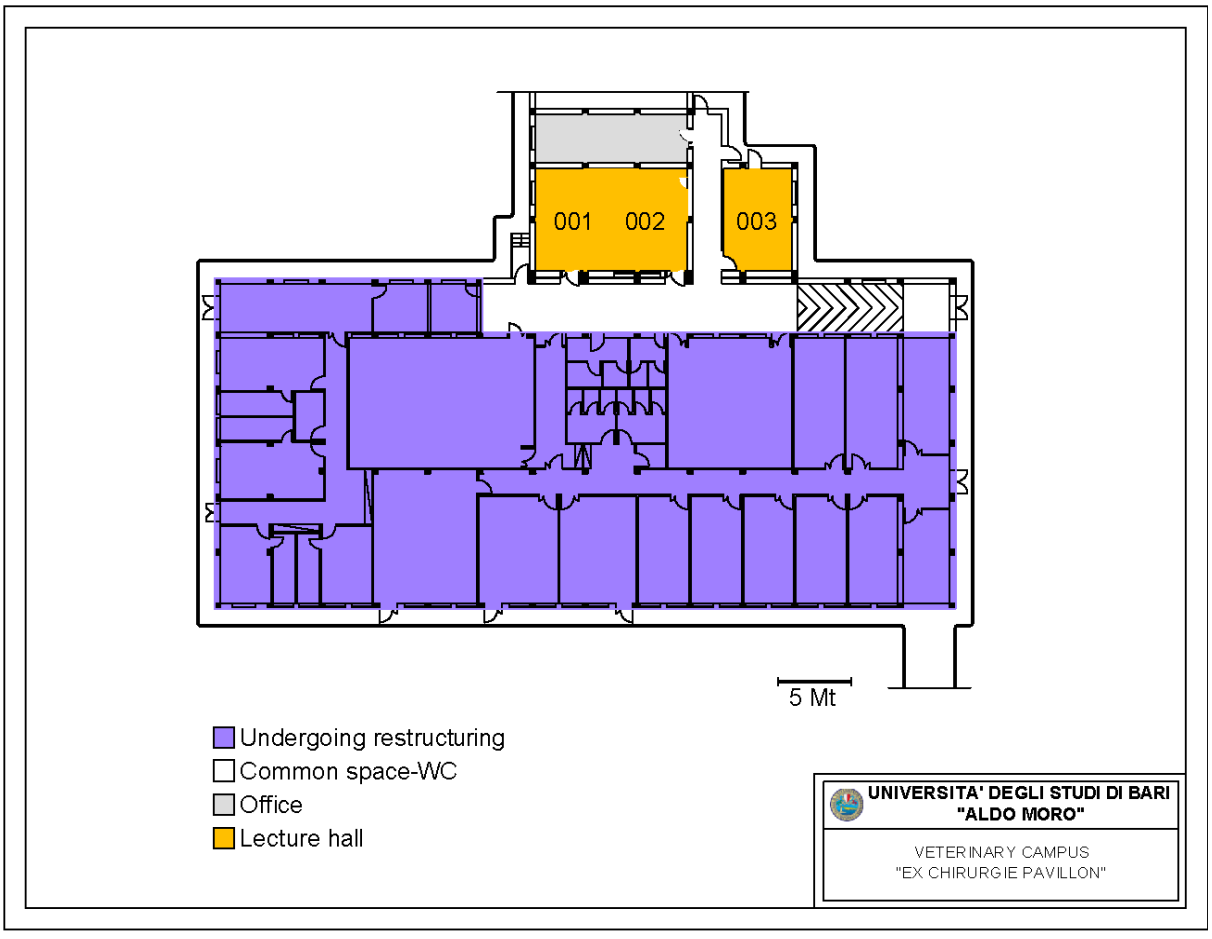

Figure 6.10: map of B 07

BUILDING 08 - THE VETERINARY TEACHING HOSPITAL (VTH)

The Veterinary Teaching Hospital (VTH) consists of a main building (08), divided into four sections (08a, 08b, 08c, 08d) and connected to two buildings (09), (10) on either side for the large animals maintenance and hospitalization; a fourth building (011), close by located in the south side, hosts the Isolation Unit.
This one-floor building (Fig. 6.11a, Fig. 6.11b, Fig. 6.11c, Fig. 6.11d, total surface area 4346 sq m) houses clinical premises and facilities for Surgery, Obstetrics and Animal Reproduction, Internal medicine, Reference Centre for Toxicology, premises for small and large animals maintenance and hospitalization, lecture halls, laboratories, offices, resting rooms, dressing rooms and toilets.

At the Surgery Unit 08a (Figure 6.11a) are located:

- a large waiting room and reception (001) for small animal of 113 sq m where clients are met by personnel of surgery, emergency care and obstetrics
- a 73 sq m large animal examination and emergency room (002) for 30-40 students
- three (total surface area of 108 sq m) small animal surgery rooms, contaminated surgery (003), surgery (004) and orthopaedics (005) rooms, each for 10-students group; each surgery room is equipped with a camera connected by intranet to the surgery lecture hall
- a 12 sq m awakening small animal room (006) for 5-student groups
- a 9 sq m dressing room (007) and a 12 sq m (008) surgeon preparation room for small animals surgery
- a 16 sq m small animals anesthesia induction room (009) able to host 10-student groups
- two rooms (total surface area of 26 sq m) for dressing (010) and surgeon preparation (011) for large animals surgery
- a 21 sq m large animals anesthesia induction room (013) for 6-student groups
- a 75 sq m large animals surgery room (013) equipped with padded bed and camera connected to the surgery lecture hall, for 25-student groups
- a 97 sq m lecture hall (014) with 40 seats
- a 79 sq m Rx and medical room (015) for 30-student groups
- a 15 sq m dark room and Rx film reading (016) for 10-student groups
- a 37 sq m CAT room (017)
- a 33 sq m stem cells laboratory (018) for 5-student groups
- a 20 sq m laboratory (019)
- a 19 sq m room (020) for washing, autoclaving and sterilizing surgical instruments
- three (total surface area of 55 sq m) small animal examination rooms (021, 022, 023), each for 10-student groups
- a 36 sq m toilet service equipped for disabled people, with dressing room and showers
- a 24 sq m guest student room (024) with living room for 3/4 students
- a 24 sq m drug storage room (025)
- a 17 sq m aquatic physiotherapy room (026) for 5-student groups
- a 25 sq m toilet service equipped for disabled people, with dressing room and showers
- three (total surface area of 34 sq m) dog hospitalization rooms (027, 028, 029)
- a 14 sq m medical room (029) for 10-student groups
- eight (total surface area of 80 sq m) animal enclosures for research purpose only for authorized personnel

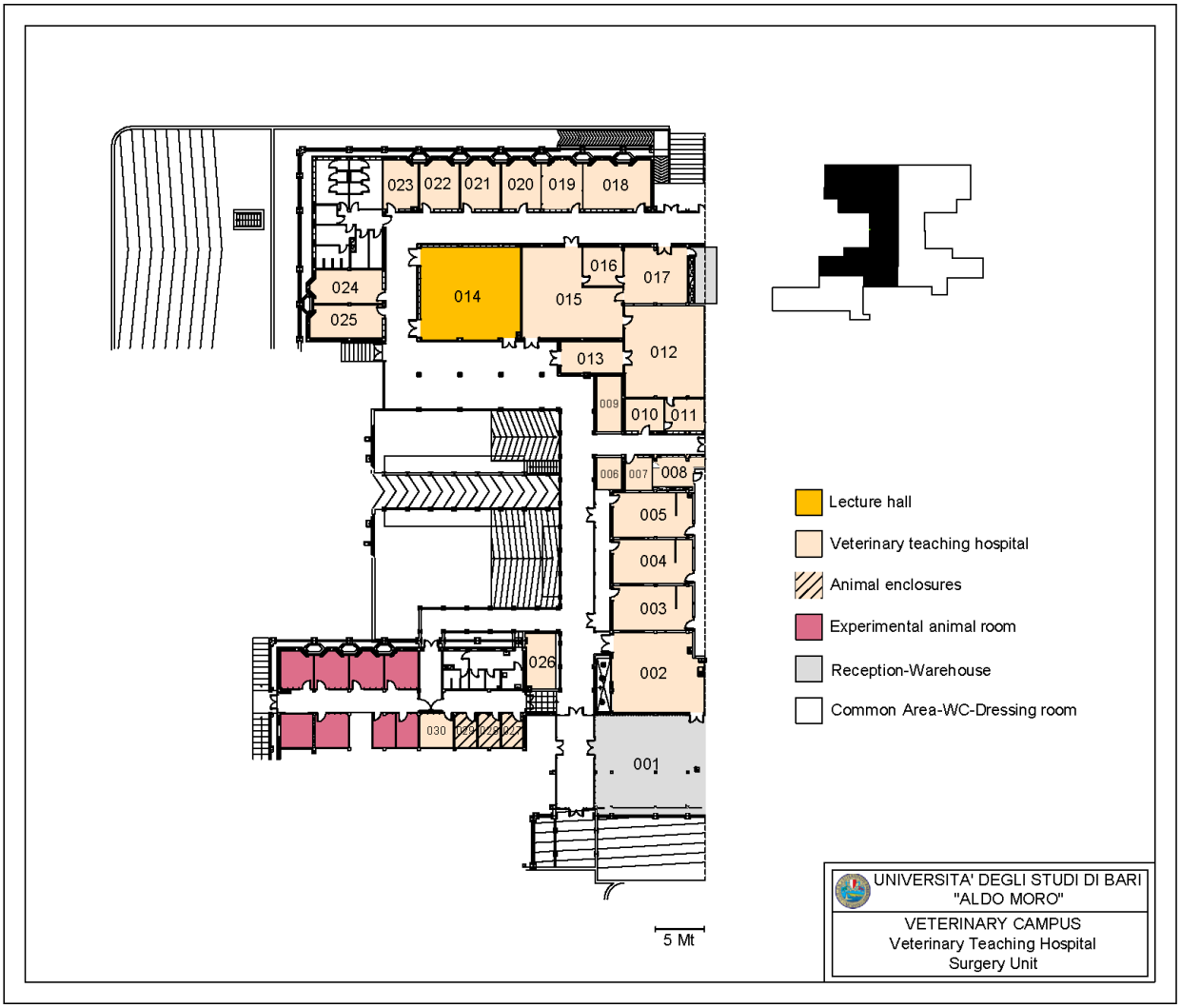

Figure 6.11a: map of B 08a

At the Obstetrics and Animal Reproduction Unit 08b (Figure 6.11b) are located:

- a large waiting room and reception (001) for small animals of 113 sq m, where clients are met by personnel of surgery, emergency care and obstetrics
- a room of 74 sq m for the small animal emergency service (002) open H24 and seven days a week
- three (total surface of 108 sq m) rooms for small animal examination (003) for 10-student groups, an obstetric surgery room (004) for 10-student groups and an obstetrics surgery room (005) equipped with video colposcope for 10-student groups
- a 12 sq m dressing room (006)
- a 13 sq m (008) surgeon preparation room for large animal obstetric surgery; in this room are placed also sterilizers
- a 73 sq m large animal surgery obstetric room (010) for 30-student groups
- a 20 sq m (011) large animal anesthesia induction room
- a 28 sq m warehouse and liquid nitrogen storage (012)
- a 20 sq m laboratory for the evaluation of fresh semen (013) equipped with microscope, C.A.S.A. able to host 10-student groups
- a 79 sq m large animal examination room (014), for mare gynecological and ultrasonographic examination, able to host 20-student groups
- a 97 sq m lecture hall (015) with 100 seats
- two rooms (total surface area of 24 sq m) consisting of a bed room (016) and a living room (017) for 3 students in professional clinical training "TIROCINIO" and a veterinarian tutor equipped with a video-camera and a monitor connected to a camera system placed in some horse-boxes of the stables where are hospitalized pregnant mares
- a 4 sq m drug storage room (018)
- a 40 sq m toilet also for disable person, dressing rooms and showers
- a 17 sq m research and educational Pharmacology applied to obstetric clinic and clinical analyses laboratory (019) equipped with organ bath, Free System Carpe Diem, spectrophotometer, able to host 8-student groups
- a 19 sq m research and educational Hormonal Immunoassays laboratory (020) equipped with thermocyclers, electrophoretic apparatus, centrifuges, automatic immunoassay apparatus, able to host 8-student groups
- a 14 sq m research and educational Embryo culture laboratory (021) equipped with CO_2/O_2 incubator, RT-PCR, stereomicroscopes, able to host 6-student groups
- a 14 sq m research and educational Oocyte Maturation and Confocal Analysis laboratory (022) equipped with laminar flow cabinet, confocal laser scanning microscope,CO_2 incubator, able to host 6-student groups
- a 14 sq m research and educational Oocyte Selection and Maturation and Sperm Microinjection laboratory (023) equipped with laminar flow cabinet, micro manipulator for ICSI, CO_2 incubator, able to host 6-student groups
- a 33 sq m research and educational Oocyte Recovery from Ovaries laboratory (024) equipped with fluorescence microscope, security cabinets for acids/bases and flammable, thermostatic water bath, able to host 15-students group

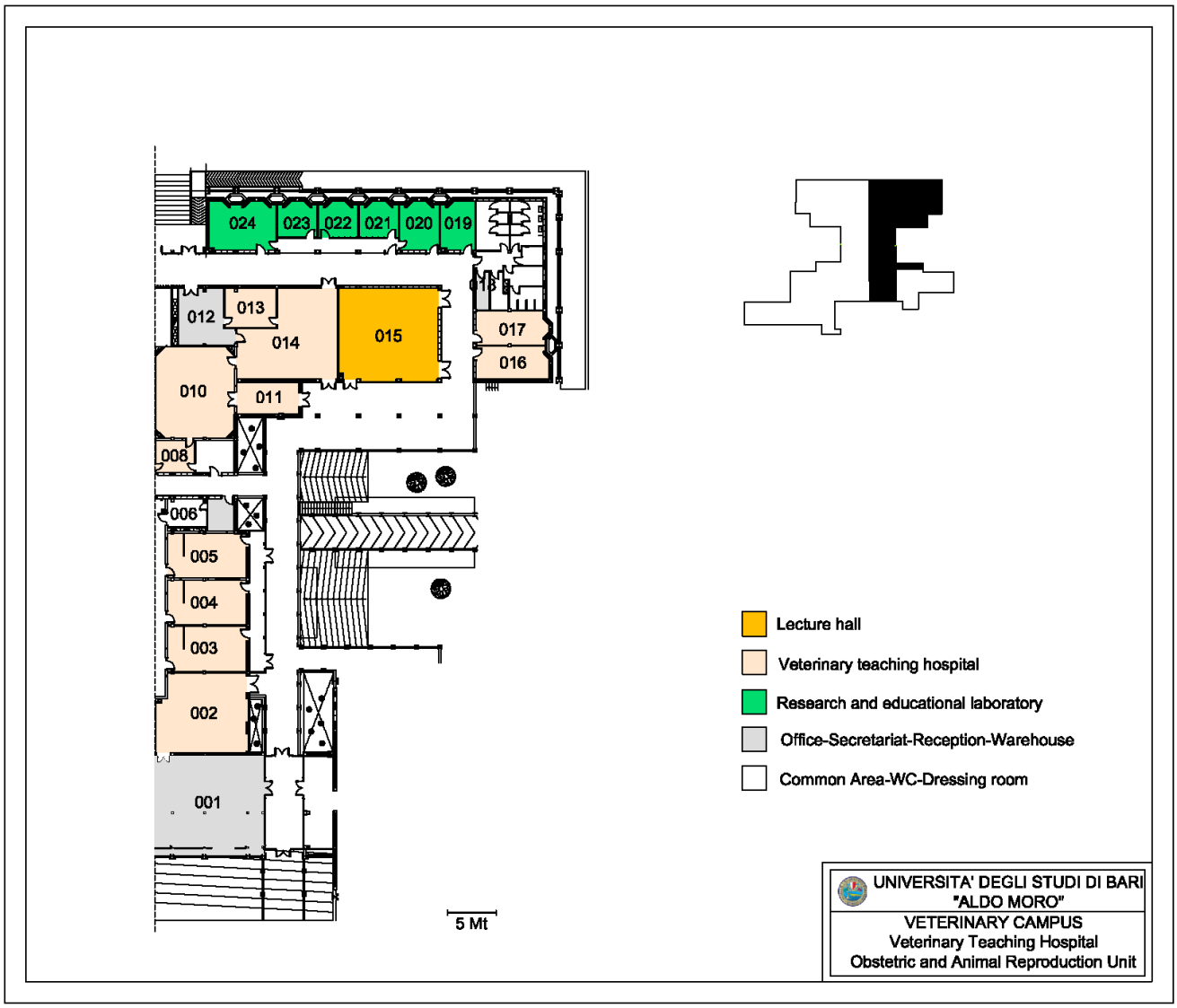

Figure 6.11b: map of B 08b

At the Internal Medicine Unit 08c (Figure 6.11c) are located:

- a common area with two separated small animal waiting rooms, a) for dogs and b) for cats
- a 25 sq m living room (001) for students in professional clinical training "TIROCINIO"
- a 17 sq m small animal examination room (002) for 5-student groups
- a 25 sq m small animal examination room (003) for 10-student groups
- a 25 sq m hematology and clinical biochemistry laboratory (004) for 10-student groups
- a 16 sq m small animal day hospital ambulatory (005) for 4-student groups
- three (total surface area of 48 sq m) small animal ambulatories (005, 006, 007), each for 5-student groups
- a 85 sq m lecture hall (009) with 40 seats
- a 38 sq m educational laboratory (010) for 15-student groups
- a 20 sq m office (011)
- toilets also for disabled person (total surface area 25 sqm)
- a 26 sq m Rx room (012) for 4-student groups
- a 18 sq m Rx reports room (013) for 4-student groups
- a 18 sq m ultrasound ambulatory (014) for 8-student groups
- a 30 sq m small animal examination room (015) for 15-student groups
- reception (total surface area 30 sq m)
- three (total surface area of 36 sq m) small animal hospitalization rooms (020, 021, 022)

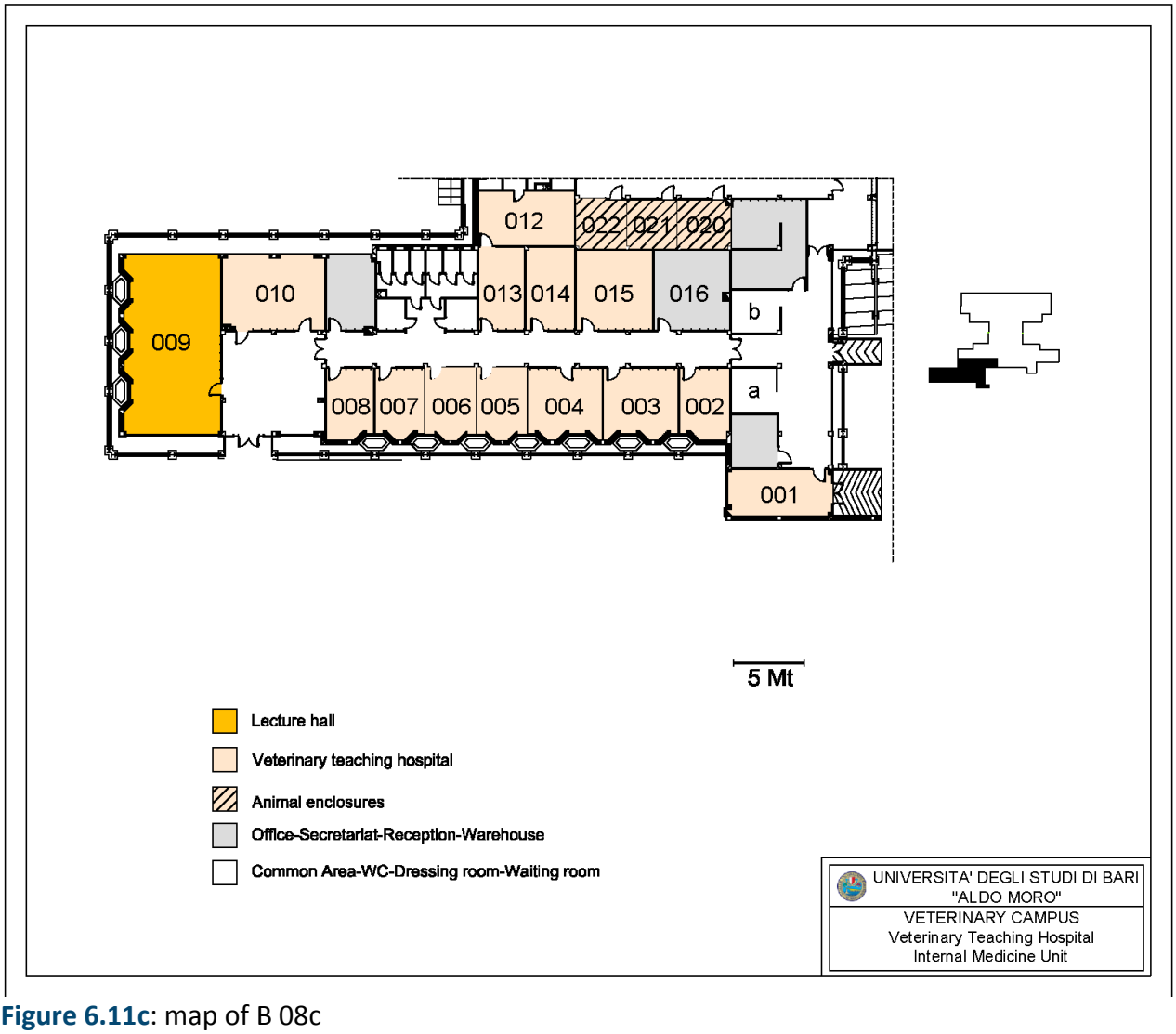

Figure 6.11c: map of B 08c

At the Toxicology Unit 08d (Figure 6.11d) are located:

- The Reference Centre for Toxicology which includes:
  - an open space office (001)
  - a 30 sq m laboratory analytical research HPLC, TLC (004)
  - a 26 sq m laboratory for extraction and sample preparation (002)
  - a 27 sq m laboratory for sample collection and storage (003)
  - a 26 sq m laboratory for analysis of results and data collection (005)
  - a 328 sq m educational garden (019) where poisonous plants and herbs are grown

    .
- animal enclosures that contain:

  -three (total surface area of 37 sq m) hospitalization rooms (008, 009, 010) for dogs or cats
  - a 12 sq m food storage (011)
  - a 17 sq m animal enclosure (012) for small ruminants
  - three (total surface area of 36 sq m) small animal hospitalization rooms (015, 016, 017)
  - a 13 sq m small animal examination room (018)
  - a 16 sq m toilet equipped for disabled people

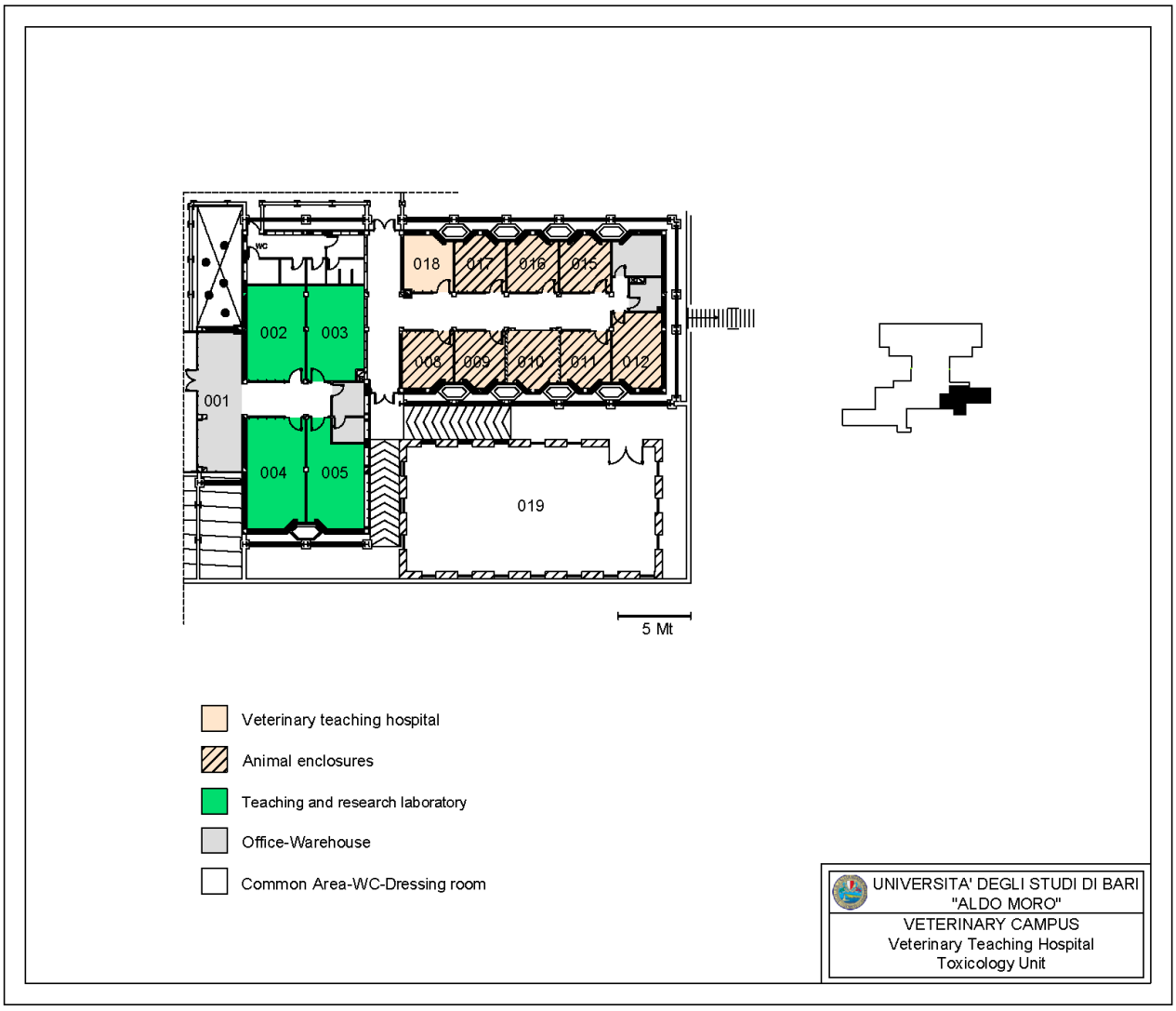

Figure 6.11d: map of B 08d

BUILDING 09

This one-storey shed (Figure 6.12) houses the boxes for large animals and small ruminants or pigs and it is used for hospitalization of clinical cases and teaching purposes.
The premises are in the order:

- 13 horse boxes (total surface area of 302 sq m)
- a 46 sq m equine examination room (001)
- a 30 sq m medical room (002)
- a 47 sq m large box stalls for 20 sheep
- two large box stalls (total surface area of 36 sq m) for 20 sheep
- two box stalls (total surface area of 25 sq m) for 3-4 pigs
- 14 sq m toilets

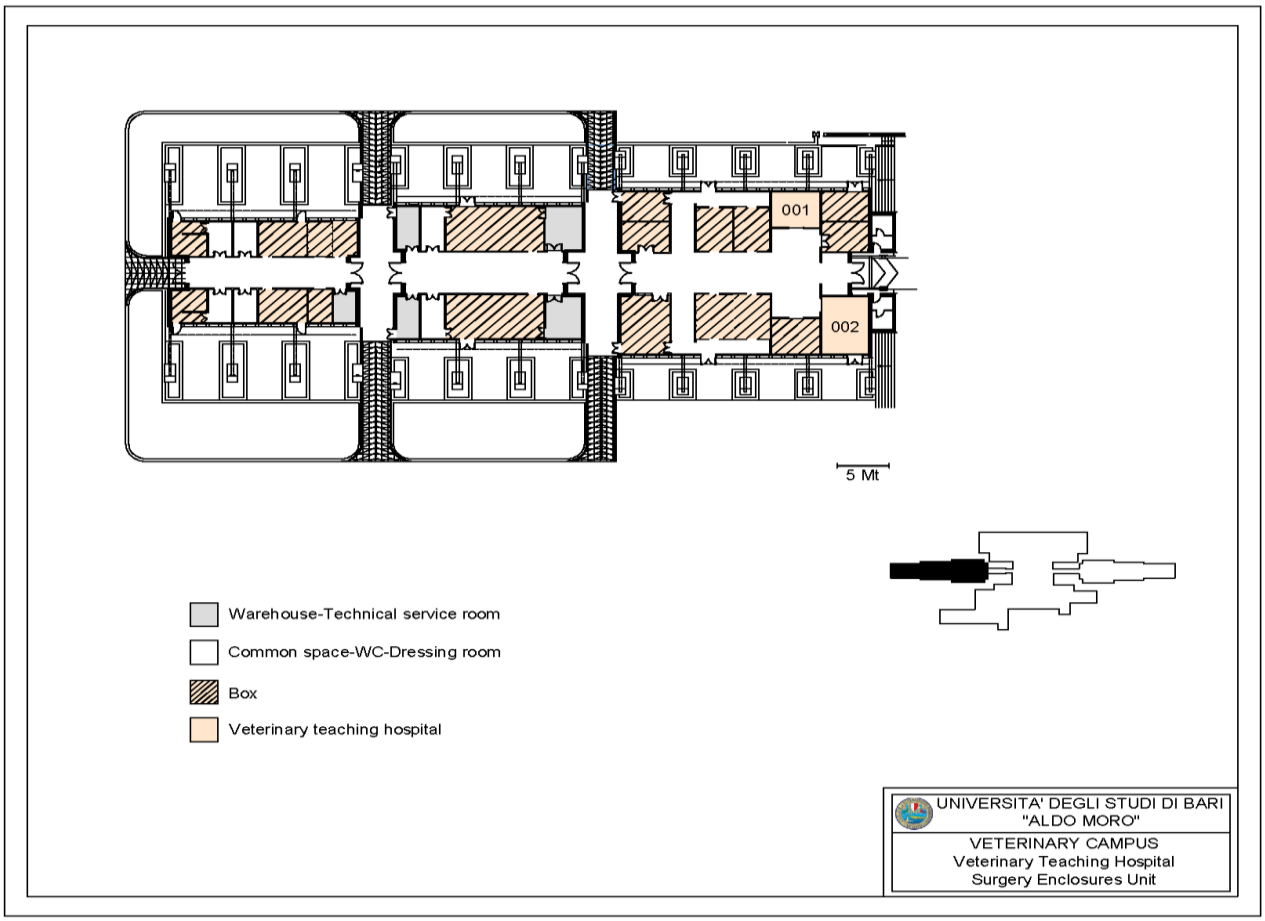

Figure 6.12: map of B 09

BUILDING 10

This one-storey shed (Figure 6.13) houses the boxes for large animals and small ruminants or pigs and it is used for hospitalization of clinical cases and teaching purposes. It also hosts an experimental feed mill and rooms for the care of injured sea turtles.

The premises are in the order:

- seven horse boxes (total surface area of 188 sq m) for adult horses or mares with foal; the four central box are equipped with a camera system connected with living room for students in professional clinical training “TIROCINIO”
- a 30 sq m equine examination room (001)
- two (total surface area of 33 sq m) experimental feed mill rooms (002, 003) for the preparation of feed useful to the experimentation of the S.A.S. with the involvement of students in professional clinical training “TIROCINIO”
- two (total surface of area 94 sq m) large box stalls for 6-8 cattle
- two (total surface area of 17 sq m) small ruminant examination room
- two (total surface area of 17 sq m) small ruminant delivery room
- two (total surface area of 35 sq m) small ruminant stables
- two (total surface area 21 sq m) air-conditioned turtles rooms (004, 005) for the recovery of injured sea turtles subjected to surgery
- a 13 sq m pig stable

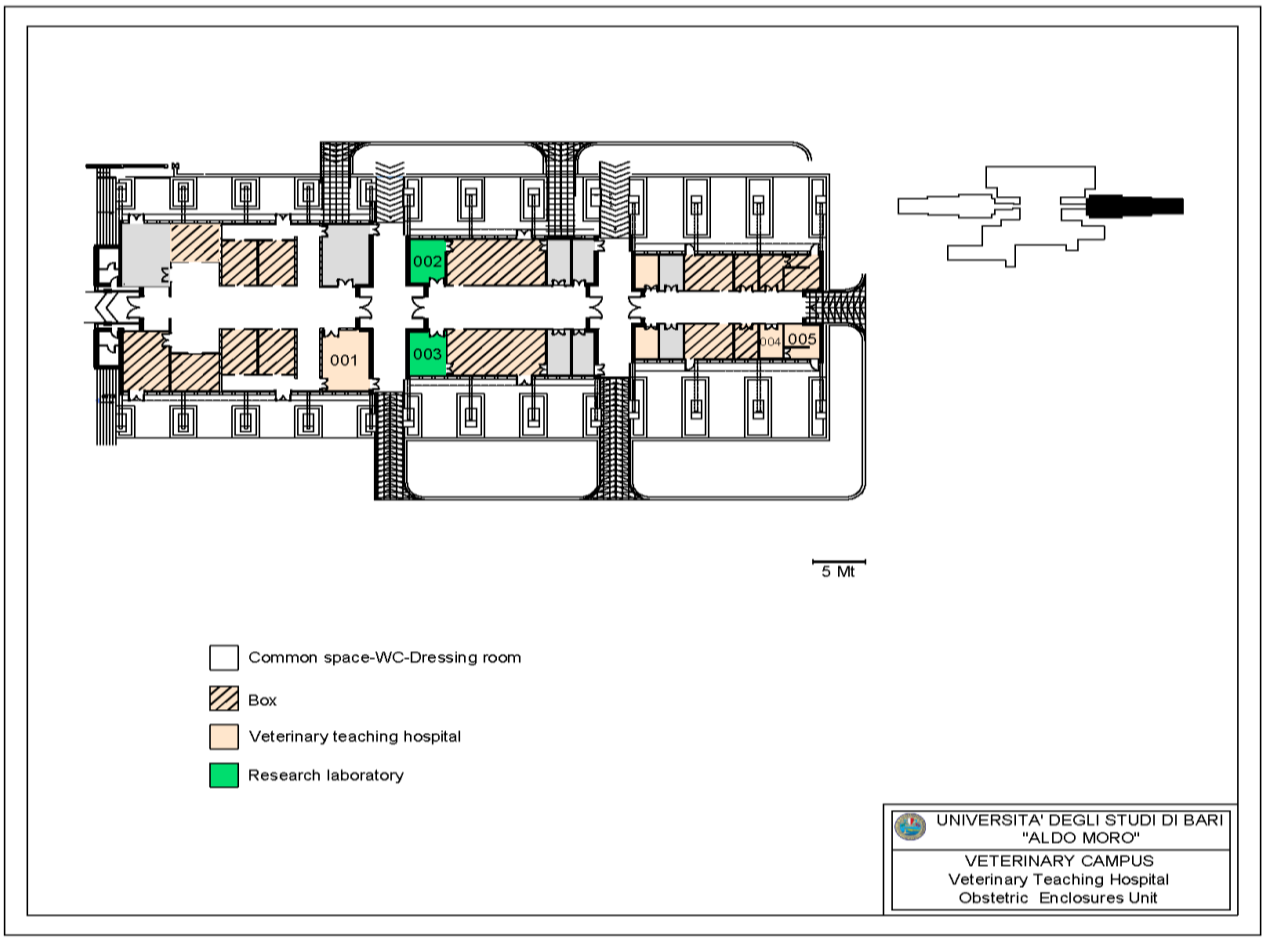

Figure 6.13: map of B 10

BUILDING 11 - Isolation Unit

This one-storey shed (Figure 6.14, total surface area of 622 sq m) houses facilities and equipment for the research in the field of Infectious diseases of animals and for the isolation of infectious patients. The Isolation Unit includes:

- a 17 sq m reception (001)
- a lecture hall (002) with 25 seats
- a 36 sq m medical room (003)
- four (total surface area of 135 sq m) isolation rooms: (004) for dogs or rabbits, (005, 009) for dogs, (010) for cats
- a 39 sq m autopsy room (006)
- a 33 sq m large box stall for 2-3 horses/cattle (007)
- a 33 sq m large box stall for 12 small ruminants (008)
- two (total surface area 35 sq m) research and educational diagnostic laboratories (011, 012), each hosting 7-student groups
- a 17 sq m office (013)
- a 18 sq m living room
- a 17 sq m dressing room
- two toilets of 12 sq m each

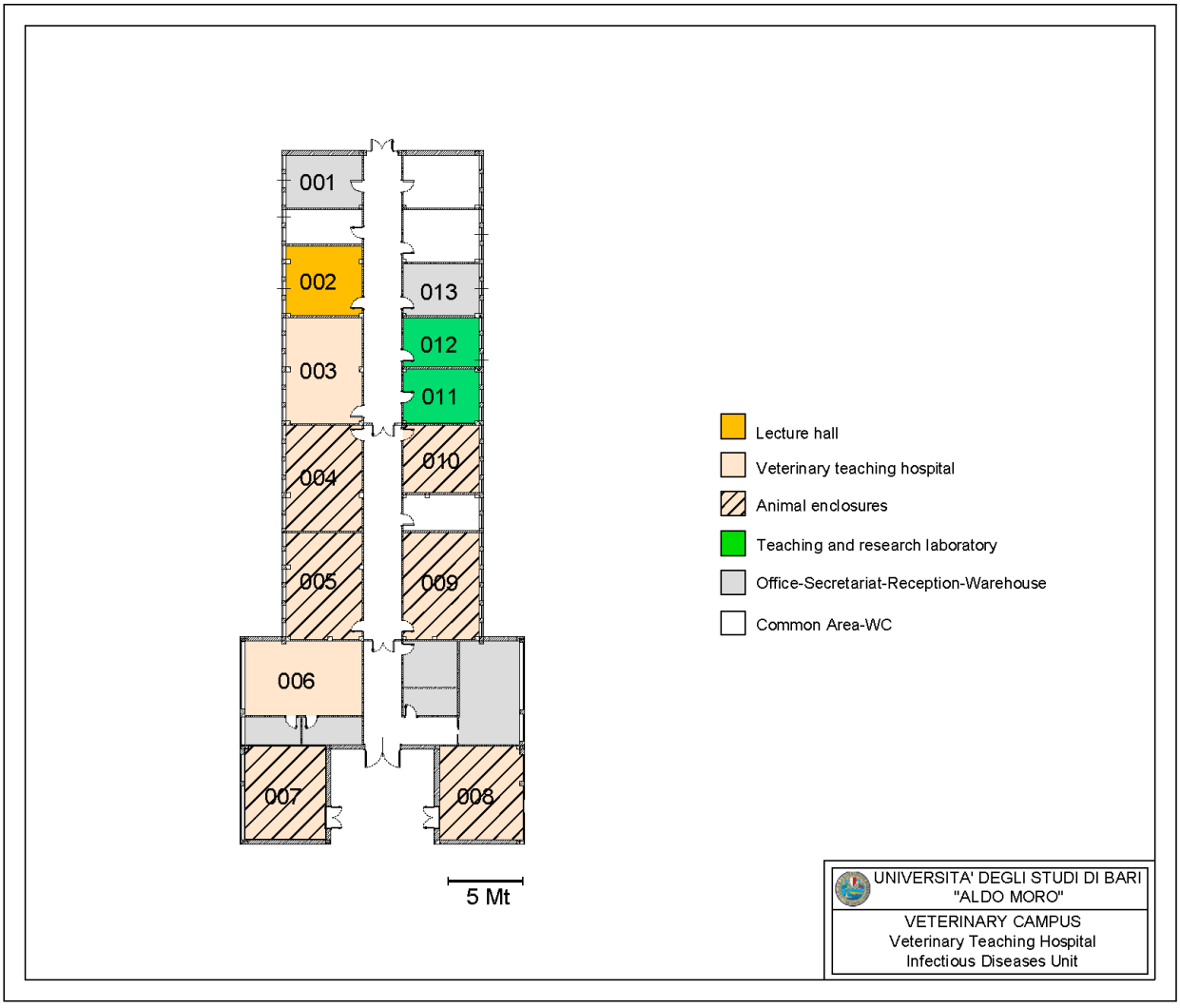

Figure 6.14: map of B 11

Paddock P 12 - Equine Breeding Centre
This paddock is divided in 8 boxes that house the mares subjected to artificial insemination

Paddock P 13
This open space divided into many fences houses mares with their foal of the Equine Breeding Centre

Paddock 14 - Poultry experimental station
In this area consisting of 800 sq m are located 7 shelters with cages for free-range breeding of hens, turkeys, guinea fowl and pheasants, with attendance of the students involved in the "*tirocinio*" training.

BUILDING 15 - Building storage tanks

BUILDING 16 - Treatment plant

BUILDING 17 - VTH air conditioning unit

BUILDING 18 - Rain harvesting tank

BUILDING 19 - The Guardian House

6.1.2 - Premises uses for clinics and hospitalization

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

Table 6.1 - Place available for hospitalization and animals to be accommodated

	SPECIES	n° PLACE
Regular hospitalization	Cattle	6 located in B 10
	Horses	13 located in B 09 7 located in B10
	Small ruminants	30 located in B 09 20 located in B 10
	Pigs	4 located in B 09 3 located in B 10
	Dogs	7 located in B 8a 5 located in B8c 11 located in B 8d
	Cats	3 located in B 8a 6 located in B 8c 8 located in B 8d
	Others	3 Turtles located in B 10
Isolation facilities	Farm animals and horses	2 horses/cattle in B 11 12 small ruminants in B 11
	Small animals	14 dogs and 3 cats in B 11
	Others	

6.1.3 - Premises for animals

Give a description of the facilities for rearing and maintaining normal animals for teaching purposes.
If the Faculty has no farm of its own, please explain in the SER the practical arrangements made for teaching such subjects as animal husbandry herd health, and the techniques of handling production animals

In the Vet-Campus there are no facilities for rearing animals except for an experimental henhouse with 60 lying hens and 10 turkeys managed by the Animal Production staff of the DEOT (Paddock 14) and an experimental apiary managed by the teaching group of the Food Safety Unit (DVM, Building 2).

In 2012, the Department decided to reduce the number of healthy animals for practical teaching sheltered at the Vet-Campus because of shortage of funds and lack of dedicated staff available for animal management during all the year.
For these reasons, normal animal nowadays present at the Vet-Campus for practical teaching are only some ewes, goats and pigs.
The Vet-Campus, however, houses the Equine Reproduction Centre "Pegasus" (Paddock 12-13) which is managed by a freelance veterinary practitioner and consists of 16 boxes. During the breeding-season (January-June), about 80-100 mares are submitted to the Centre for both the fertilization and delivery activities. Therefore, the students have the great opportunity to acquire expertise about: 1) semen collection from stallions; 2) artificial insemination; 3) ultrasound investigation and 4) delivery and foal management.
Students can acquire also experiences on the management of healthy dogs and cats during the visits at the kennels operating within the number of agreements entered on with public and private structures (see Annex 4.3 and Annex 4.4).
There are a number of livestock farms where the students carry out part of their practical training in animal production subjects under the direct supervision of teaching staff and/or external tutors.
These plants are partner of the Departments according to formal agreements or informal arrangement directly negotiated by the teachers and the farmers. The list of the most frequently visited farms is given in Table 6.1a and a more detailed list is shown in Annex 4.3 and Annex 4.4

Table 6.1a - Livestock farms where the students carry out practical training in Animal Production

	Public and Private Institutions	Activity	Location	Distance from the Campus	External tutor supervisor [1]	Internship Coordinators
Bovine	ALL.CA.NO Az. Agricola.	Cattle and milk buffalo Farming	Corso Italia, 75 SANTERAMO (BA)	40 Km	Dr. Antonella Nocco	Prof. De Palo
	L'Aggiunta Az. agricola	Calf Farming	SS100, km 45,760 GIOIA DEL COLLE (BA)	40 Km	Dr. Antonella Nocco	Prof . De Palo
	POSTA LA VIA Azienda Agricola	Dairy and Beef Farming	Località Amendola MANFREDONIA (Fg)	134 Km	Dr. Carlo Gatta	Prof . De Palo Prof . Sciorsci
	Az. Agricola del Matese SrL	Dairy Farming	Località Compostella, GIOIA SANNITICA (CE)	250 km	Dr. Domenico Coronati	Prof . De Palo
Equine	Pegasus	Equine Breeding Center	Str. Prov per Casamassima km 3 - VALENZANO	0 km	Dr. Michele Nicassio	Prof . Lacalandra
	Azienda “Russoli”	Centre for the conservation of Martina Franca donkey genetic inheritance	S.P. 49 C.da Pilano MARTINA FRANCA (TA)	65 Km		Prof Di Bello
	Tempa Bianca	Equine Breeding Center	Contrada Rifeccia, 75100 MATERA (MT)	46 Km	Dr. Raffaele Manfredi	Prof . De Palo
	Az. Agricola MANFREDI	Equine Breeding Center	Via Vecchia Vallata,1272 GIOIA DEL COLLE (BA)	40 Km	Dr. Raffaele Manfredi	Prof . De Palo
Swine	SUIT	Pig farming	C.da Madama Giulia, BANZI (PZ)	103 km		Prof . Buonavoglia C Prof . De Palo
Poultry	Azienda "Le Uova d'Oro"	Avicultural farm. Eggs production and packaging	C/da Carnara, CANICATTI’ (AG),	665 km	Dr. Calogero Montante	Prof. Camarda
	Azienda Avicola Martella	Laying Hens farm	Via C.da Rene S. Matteo – 74011 CASTELLANETA (TA)	55 km		Prof. Camarda
Rabbits	Azienda Cunicola Itria Conigli	Rabbit farm	Strada Monte Pelusiello, 30 MARTINA FRANCA (TA)	63 km		Prof. Camarda
Aquaculture	Panittica Pugliese	Hatchery	Strada Comunale del Procaccio TORRE CANNE DI FASANO (BR)	75 km		Prof. Centoducati G.
	Maricoltura Mar Grande SrL	Aquaculture plant	Via Golfo di Taranto 7/E TARANTO	80 km		Prof. Centoducati G.
	Acquacoltura Jonica	Aquaculture	Viale Jonio, 156 - TARANTO	80 km	.	Prof. Centoducati G

Dogs and cats	Az. BIBORANI DOG'S	Private Kennel	Via Generale Bellomo, 91 – 70124 BARI	15 km	dr. Giovanna Ranieri	prof. Tateo prof. Pratelli
	A.C.A. ONLUS	Dog shelter	Via Martinez, 1 BARI	8 km		prof. de Caprariis
	Canile comunale Bari	Dog shelter	Via dei fiordalisi, BARI	8 km		prof. Crovace prof. de Caprariis
	Casa Circondariale di Barletta	Dog kennel	Via Andria, 300 BARLETTA (BA)	15 km		prof. de Caprariis
	COOP Tasha	Dog shelter	Via M. D'Azeglio 17, BITONTO (BA)	20 km		prof. Crovace
	Canile comunale Ruvo di Puglia	Dog shelter	Piazza Matteotti, 31 – 70037 RUVO DI PUGLIA (BA)	15 km		prof. de Caprariis
Wild animals	Regional faunal observatory station	Recovery Center for the Wild Fauna	Via gen. M. Palmiotti n 43, BITETTO (BA)	15 km	-	prof. Camarda
Slaughterhouses	Ciavarella e Saponaro	Slaughterhouse. Meat trade and processing HACCP in meat production	Via Vecchia Casamassima, km 1 NOICATTARO (BA)	15 Km	dr. Leonardo Procino dr. Vito Masciopinto	prof. De Palo prof. Dambrosio prof. Bonerba
	Maselli Carni	Slaughterhouse. Meat import, trade and processing Industry	Via A. Volta 16 RUVO DI PUGLIA (BA)	40 Km		prof. Dambrosio prof. Bonerba
	Siciliani S.p.A.	Slaughterhouse. Meat processing Industry Sanitization food industry HACCP in meat production	Str Prov. Bitonto/Palo Del Colle PALO DEL COLLE (BA)	16 Km	dr. Giorgio Samoilis	prof. Dambrosio prof. Bonerba

6.5 Premises used for theoretical, practical and supervised teaching

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

Table 6.2 - Premises for clinical work and student training

Small animals	No. of consulting rooms	13 3 in B 8a, Surgery Unit (021,022,023) 1 in B 8b, Obstetrics Unit (003) 9 in B 8c, Internal medicine unit (002, 003, 005, 006, 007, 008, 012, 014, 015)
	No. of surgical suites	5 3 in B 8a, Surgery Unit (003, 004, 005) 2 in B 8b, Obstetrics Unit (004, 005)
Equine and food animals	No. of consulting rooms	5 2 in B 8a, Surgery Unit (002, 015) 1 in B 8b, Obstetrics Unit (010) 1 in B 9, Surgery Unit stable (001) 1 in B 10, Obstetrics Unit stable (001)
	No. of surgical suites	4 2 in B 8a, Surgery Unit (012, 013) 2 in B 8b, Obstetrics Unit (007, 008)
Other	No. of consulting rooms	2 1 in B 6, pet birds and rabbits (001) 1 in B 10, sea turtles
	No. of surgical suites	

Table 6.3 - Premises for lecturing

n°	Places	Building	Video projector/ Microphone	Hall name
1	140	04	Yes/Yes	Hall 1 - "B. Tero"
2	15	04	Yes/No	Hall 2
3	90	04	Yes/Yes	Hall 3 “M. Compagnucci”
4	15	04	Yes/No	Hall 4
5	90	04	Yes/Yes	Hall 5 “G. Tiecco”
6	30	01	Yes/No	Hall 7
7	50	01	Yes/Yes	Hall 8 “M. Mastronardi”
8	142	01	Yes/Yes	Hall 9 “P. Minoia”
9	20	07	Yes/No	Hall 10
10	20	07	Yes/No	Hall 11
11	20	07	Yes/No	Hall 12
12	40	08a	Yes/No	VTH, Surgery Unit
13	100	08b	Yes/No	VTH, Obstetric Unit
14	40	08c	No/No	VTH, Internal Medicine Unit
15	25	11	No/No	VTH, Isolation Unit
16	270	01	Yes/Yes	Aula Magna
Total number of places for lecture halls: 1107				

Classroom for lectures are generally assigned at the beginning of the academic year to the student classes belonging to the different year courses. All lecture halls are equipped with a computer connected to a video-projection equipment installed on the ceiling.

Table 6.4- - Premises for group work

n°	name	Building	Places
1	Microscopic Anatomy/Dissecting Anatomy	B 05 (019)	17/30
2	Necropsy	B 05 (018)	40
3	Avian pathology	B 05 (022)	21

Currently, the Microscopic Anatomy/Dissecting Room is used for practical work in different subjects (parasitology, infectious diseases, pathology, etc.), waiting for the construction of the new Multifunctional Educational Laboratories that is expected in 2015 (see Chapter 3 - Finances).

All lecture halls are also used for supervised group works in the afternoon and, when necessary, laboratories and reading rooms within the departments can be also used for these purposes.

A number of research laboratories are also used for educational aims and are listed in table 6.5.

Table 6.5- - Premises for practical work

Laboratory Function (Room)	Building	Places
Food fat matrix extraction (018)	B 02 ground floor	20-student group
Food Microbiology (025)	B 02 ground floor	15-student group
Sterilisation and Culture Media Preparation (026)	B 02 ground floor	15-student group
Histology and Histopathology (027)	B 02 ground floor	15-student group
Proximate Analysis and Xenobiotics Characterization (028)	B 02 ground floor	15-student group
Molecular Biology (036)	B 02 ground floor	10-student group
Honey processing (029)	B 02 ground floor	5-student group
Molecular Biology I (014)	B 02 first floor	10-student group
Molecular Biology II (032)	B 02 first floor	5-student group
Molecular Biology III (035)	B 02 first floor	5-student group
Laboratory Function (Room)	**Building**	**Places**
Centrifuges (023)	B 02 first floor	6-student group
Virology I (024)	B 02 first floor	10-student group
Virology II (034)	B 02 first floor	5-student group

Bacteriology (025)	B 02 first floor	10-student group
Sterilization Unit (033)	B 02 first floor	5-student group
Cell Unit (036)	B 02 first floor	4-student group
Serology (037)	B 02 first floor	5-student group
Parasitology Molecular Biology (007)	B 02 first floor	6-student group
Mycology (008)	B 02 first floor	6-student group
Entomology, Serology, Coprology (015)	B 02 first floor	10-student group
Food Microbiology (027)	B 02 first floor	15-student group
Molecular Biology (030)	B 02 first floor	15-student group
Clinical Chemistry (015)	B 03 ground floor	15-student group
Haematology and Cytology (016)	B 03 ground floor	15-student group
Physiology Molecular Biology (010)	B 03 first floor	8-student group
Immunocytochemistry (006)	B 05 ground floor	15-student group
Scanning Electron Microscopy (007)	B 05 ground floor	7-student group
Histochemistry and Immunohistochemistry (026)	B 05 ground floor	10-student group
Morphology (027)	B 05 ground floor	10-student group
Avian Bacteriology (015)	B 05 ground floor	10-student group
Pet bird and rabbit Clinic Examination (001)	B 06 ground floor	10-student group
Avian Molecular Biology (003)	B 06 ground floor	10-student group
Serology and Bacteriology (019)	B 06 ground floor	10-student group
Anatomy Microscopes (016)	B 06 ground floor	10-student group
Histopathology and Oncology I (023)	B 06 first floor	10-student group
Laboratory Function (Room)	**Building**	**Places**
Histopathology and Oncology II (024)	B 06 first floor	10-student group
Aquaculture and Cells Culture (029/1)	B 06 first floor	10-student group
Spectrophotometry (033)	B 06 first floor	10-student group
Genetics and Molecular Biology (029)	B 06 first floor	10-student group
Food Analysis (030/1)	B 06 first floor	10-student group

Laboratory Function (Room)	Building	Places
Stem cells (018)	VTH B 08a	5-student group
Clinical analyses (015)	VTH B 08b	8-student group
Hormonal Immunoassays (016)	VTH B 08b	8-student group
Embryo culture (017)	VTH B 08b	6-student group
Oocyte Maturation and Confocal Analysis (018)	VTH B 08b	6-student group
Oocyte Selection and Maturation and Sperm Microinjection (019)	VTH B 08b	6-student group
Oocyte Recovery from Ovaries (020)	VTH B 08b	15-student group

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

The basic measures and preventive activities laid down by the European and Italian laws (Dir 89/391/CEE, D.Lvo 81/2008) to improve working conditions and reduce the risks of working places are in place in all premises of the Vet-Campus.
In all buildings the main corridors are equipped with automatic fire extinguishers. Evacuation maps are present in strategic points of the establishment and escape routes are well indicated
Smoking is strictly forbidden in all close areas.
There are emergency showers within easy distance from some laboratories and eyewash and emergency kit are available in all department laboratories. Laboratory where hazardous biological samples and chemicals are handled are provided with biological and/or chemical hoods.
Adequate equipments are available at the Veterinary Teaching Hospital that allow safe handing of large animals.
Use of working clothes is mandatory in the laboratories, dissection rooms, premises for animals, Veterinary Teaching Hospital, external farms, etc. Disposable gloves, masks, plastic overcoats and boot covers are provided to students when needed.
All students are trained by the staff in charge of each premise, where they perform practical works in the basic safety procedures they have to follow in order to comply with good laboratory or clinical practice.
With regard to safety in radiology, students are trained during the course in Radiology on the safety measures to be followed to safely handle animals while taking X-ray. Undergraduate students, however, are only involved in the positioning of animals under X-ray machine. Staff involved in the radiology activities is provided with personal X-ray badges and undergoes to periodical medical control.
In the event of accident, injured staff/students can be quickly transferred to the first aid Unit of a close Hospital (*Ospedale Di Venere*, Carbonara - BA, about 8 km far).

6.1.5 - Diagnostic laboratories and clinical support services

Briefly describe the diagnostic laboratory facilities available for clinical diagnostic work

A specialized laboratory of Haematology, Cytology and Clinical Chemistry provides full-time assistance to the clinical activity of the Veterinary Teaching Hospital. Moreover, there are 5 additional specialized laboratories (Parasitology, Infectious Diseases, Pathology, Cellular Therapy and Reproductive Biotechnology) that are mainly involved in teaching and research activities, but that are also involved in clinical cases for more specialized investigations. Some of them, moreover, offer assistance to the external premises/farms visited by the staff and for the profession and companies (e.g. pharmaceutical industries).
Moreover, several other laboratories, including the above mentioned ones, provide non clinical service to the profession, companies and general public (e.g. food analyses).
At the diagnostic laboratories, a representative of the permanent teaching staff holds responsibility for the service and 2-3 budgeted technicians work full time.

Laboratory of Haematology, Cytology and Clinical Chemistry

The Haematology, Cytology and Clinical Chemistry Diagnostic Service of the Section of Veterinary Clinics and Animal Production of the Department of Emergencies and Organ Transplantation (DEOT) provides support for the handling of clinical cases of the Veterinary Teaching Hospital.
The laboratories where these activities are carried out are located at Building 03 of the Vet-Campus (rooms 015 and 016,) and are equipped with all necessary facilities for clinical traditional diagnoses (Table 6.6).

Table 6.6 - Laboratory facilities available for clinical diagnostic works in Haematology, Cytology and Clinical Chemistry

Laboratory facilities at the Internal Medicine Unit premises
Spectrophotometers
Automated biochemistry analyzer
Electrophoresis system
Automated cell counter
Cytospin
Optical microscopes
Centrifuges
Thermal cyclers
Laboratory facilities at the Veterinary Teaching Hospital
Dry Chemistry Photometer
Refractometer

Complete blood counts and evaluation of blood smears, blood biochemical profile, serum protein electrophoresis, complete urinalysis and cytology of the sediment, effusion analysis and cytology, lymph node, cutaneous, subcutaneous and neoformation cytology are provided.
These diagnostic services perform about 1000 analyses per year.
An additional and easy to use equipment for fast haematological, biochemical, blood gases, blood electrolytes tests is supplied by the Veterinary Clinics Unit of DEOT for the Hospitalization Intensive care/Emergency Unit during night service.

Laboratory of Cellular Therapy

The laboratory of Cellular Therapy of the Section of Veterinary Clinics and Animal Production of DEOT provides support to the Veterinary Teaching Hospital for clinical and research purposes.
The laboratories where these activities are carried out are located at Building 08 of the Vet-Campus (rooms 018, 019). The equipment used in the laboratory is listed in table 6.7.

Table 6.7- Laboratory facilities available at the Cellular Therapy Laboratory

Laboratory facilities
Vertical laminar flow cabinets
Optical microscope
Incubators and CO_2 incubators
- 80 °C deep freezer
Analytic scales
Centrifuges
Liquid Nitrogen containe

Laboratory of Parasitology and Mycology

The Parasitology and Mycology Diseases Diagnostic Service of the Department of Veterinary Medicine provides diagnoses of parasitic and fungal infections relevant to animal production and of potential public health concern on a wide range of animal species. This service is carried out in three laboratories (Building 02, rooms 007, 008 and 015) equipped with all necessary facilities for traditional and biomolecular diagnoses (Table 6.7).

Table 6.7 - Laboratory facilities available for clinical diagnostic works in Parasitology

Laboratory facilities
Vertical laminar flow cabinets
Chemical hoods
Thermostats
Incubator
pH meter
Optical microscopes, stereo microscopes and fluorescence microscope
Electrophoresis equipment
Gel DOC
T-Shaker Cool Thermo Mixer
Centrifuge and micro centrifuges
Thermal cyclers
Real-time PCR thermal cycler
Barman apparatus
McMaster chamber

These laboratories provide the following services: identification of endo- and ecto-parasites, qualitative and quantitative copromicroscopy, haematological diagnoses (via cytology on smear samples and modified Knott's test) for emoprotozoa and filarioid nematodes, dermatological diagnoses (skin scraping, hair samples) for ectoparasites, PCR- diagnoses on biological samples and tissues (e.g., for leishmaniosis, babesiosis, haepatozoonosis), serological diagnoses (IFAT, ELISA and Western blot analyses), rapid diagnoses on commercial kits for protozoa and nematodes. Identification of all veterinary important yeasts and moulds via microscopical examination,

isolatonio, biochemical and PCR-based tests. Antifungal susceptibility testing (performed based on international standards –CLSI) on all yeasts and moulds. These diagnostic services perform about 400 analyses per year for Hospitals and their clinics and clinicians outside Vet-Campus. About 2000 analyses per years have also been performed for research purpose.

Laboratory of Infectious Diseases

The Microbiology and Infectious Disease Diagnostic Service of the Department of Veterinary Medicine supports the Veterinary Teaching Hospital and the general public in the diagnoses of infections. The laboratories are located at Building 02 of the Vet-Campus (rooms 024, 025, 032, 032, 034, 035 and 037) and are equipped with all necessary facilities for traditional and biomolecular diagnoses (Table 6.8).

Table 6.8 - Laboratory facilities available for clinical diagnostic works in Infectious Diseases

Laboratory facilities
Vertical laminar flow cabinets
Optical and fluoroscence microscope
Incubators and CO_2 incubators
Reader spectrophotometer
Pulse electrophoresis equipment
Chemidoc. Gel DOC.
Centrifuges and ultracentrifuge
Reverse osmosis H_20.
HA reader
Real-Time PCR cyclers

These laboratories provide the following services: virus isolation and identification, bacteria isolation and identification, haemoagglutination test, antibiogram, PCR/Real-Time PCR for viral and bacterial DNA/RNA, sequencing analysis, serology (immunofluorescence, inhibition of haemoagglutination, serneutralization, ELISA) and perform about 1500 diagnostic analyses/year
In particular, there is a diagnostic routine activity that takes advantage of biomolecular tools (e.g., conventional as well real-time PCR) for detection of canine and feline parvovirosis, canine distemper, canine infectious hepatitis, leishmaniosis and several canine vector borne diseases causing pathogens.
The Infectious Diseases Unit deals with the bacteriological, virological and serological diagnosis upon specific request (on-call) from farmers/breeders (mainly farmed animals). The diagnostic support activities in the farms are specifically requested for cattle affected by severe neonatal gastroenteritis, infectious respiratory distress and reproductive failures (abortion storms). In most instances, the action area is restricted to the Provinces of Bari and Taranto, but the requested come often from farmers of confining regions (Basilicata, Calabria, Campania).

Laboratory of Pathology

The Pathology Diagnostic Service of the Department of Veterinary Medicine supports the Veterinary Teaching Hospital and the profession in the histopathology and in-house and outside necropsy diagnoses. These services are carried out in 2 laboratories located at Building 06 of the Vet-Campus (rooms 023 and 024) equipped with all necessary facilities (Table 6.9) and in the Necropsy room located at the "Vinci Pavilion" (Building 05, room 018)

Table 6.9 - Laboratory facilities available for clinical diagnostic works in Pathology

Laboratory facilities
Microtome and ultramicrotome
Histochinetes
Softener and fixer machine
Ventilated chemical cabinet
Centrifuge
Optical microscopes

Traditional histology, special straining and immunohistochemistry are performed along with a necropsy service

Laboratory of Reproductive Biotechnology

The laboratories of Reproductive Biotechnologies of the Section of Veterinary Clinics and Animal Production of the DEOT are fully equipped to perform:

- In vitro embryo production in farm animals (bovine, equine, ovine);
- assessment of the quality of the gametes and embryos by molecular, biochemical and 3D imaging technologies;
- Isolation and characterization of mesenchymal stem cells isolated from foetal adnexa in farm animals.

Two cell culture rooms (rooms 021 and 022- Building 08b) are equipped with preparative instruments and highly specialized tools (Table 6.10).

Table 6.10 - Laboratory facilities available for clinical diagnostic works in Reproductive Biotechnology

Laboratory facilities
Confocal Laser Scanning Microscope
Micromanipulation apparatus
Computer Assisted Sperm Analyzer
Real Time PCR
Preparative instruments

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

The Veterinary Teaching Hospital offers a relevant number of clinical service including internal medicine, cardiology and echocardiography, dermatology, surgery, obstetrics and reproduction, neurology ophthalmology, parasitology microbiology and pathological anatomy.
A clinic mobile service is also supplied.

However the three main clinical support services operating at the Veterinary Teaching Hospital are:

- Hospitalization, Emergency and Intensive Care
- Diagnostic imaging
- Anaesthesia

Hospitalization, Emergency and Intensive Care

All the patients (both small and large animals) that need hospitalization and eventually intensive care, independently from the nature of their medical problem, are assigned to the hospitalization and intensive care service, which is responsible for the therapies and assistance to the patients (during the day and over night) and always refers to the clinician responsible for the case. Moreover, the service is responsible for the first approach to the emergency cases, the triage of the patient, which is thereafter, referred to the unit of competence (surgery, internal medicine, or reproduction). This service is mainly located in rooms 002 (Building 08b) and 002 (Building 08a) where the small and large animal emergency examination rooms are located. For the small animals, the emergency consultation room serves also as intensive care room, where the most critical patients, that need continuous assistance and/or monitoring, are hospitalised. The maximum occupancy of the room is 7 patients for intensive care. The patients that need hospitalization but do not require continuous assistance are hospitalized in the ward corresponding to the nature of the disease (surgery, internal medicine or reproduction).

Diagnostic imaging

The Section of Veterinary Clinics of the DEOT provides the diagnostic imaging service for the entire Veterinary Teaching Hospital and for external private practices.
The service is equipped with the following instruments:

- Computed Radiography - two x ray tubes for small and large animals are available, which are equipped with Computer Radiography for DICOM images.
- Computed Tomography - A 4th generation helical computed tomography for small animals is employed for 2nd level diagnostic imaging.
- Ultrasonography - 4 Ultrasonography machines are available for abdominal examination, cardiology, reproductive tract and musculoskeletal tissue scans for both small and large animals.
- Endoscopy - 2 fiberscopes are available for gastrointestinal and URT endoscopy for small and large animals
- C-arm - A C-Arm for orthopaedic surgery or other intraoperative uses is available.

Images are collected in DICOM format and are available in a unique PACS server for images sharing and post-processing consultation and elaboration.
The case load of the service consists of about 550 radiographic examinations, 150 computed topographic studies and 350 ultrasound examinations per year

Anaesthesia

Patients that require sedation and/or anaesthesia at the Veterinary Teaching Hospital are referred to the anaesthesia service, which is supervised by the teaching staff assisted by PhD students and internal students that are directly involved in the management of the anaesthesia.
The service, which applies the most up to date anaesthetic techniques, is equipped with 7 anaesthetic machines for small animals and 2 for large animals, 8 mechanical ventilators for small animals and 1 for large animals, 5 infusion pumps, 6 vital parameters monitors, and a blood gas machine. Patients scheduled for surgery are induced in the induction/preparation room and then moved to the surgical theatre. Patients scheduled for diagnostic procedures or other minor procedures are anaesthetized/sedated directly in the room where the procedure will be performed. The service is also responsible for the postoperative pain therapy. The average case load consists of about 400–450 general anaesthesias and 500–550 sedation procedures per year.

6.1.6 - Slaughterhouse facilities

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

The Department has established formal agreements with several slaughterhouses situated near to the Vet-Campus. In these plants practical training sessions are regularly planned and performed during the Food Safety, Infectious Diseases, Parasitology and Animal Production courses. All these slaughterhouses are authorized by local Authorities according to the EU rules on food hygiene and inspection and strictly follow the European and Italian rules on animal welfare.
One of this slaughterhouses (Siciliani S.p.A) is a very large plants which can process more than 100-200 animals per day while the other ones are medium/small processing plants.
Moreover, most of them include meat processing plants, so that students can also take part in veterinary inspective procedures on meat products and meat preparations.
In Table 6.11 the slaughterhouse facility to which the students of the Veterinary Medicine Degree course have access, including distances from the Vet-Campus, are listed.

Table 6.10 - Slaughterhouses plants with which the Department has entered into an formal or informal agreements.

Slaughterhouse	Address	Distance from the establishment	Species covered
Ciavarella e Saponaro S.N.C	Via Casamassima, Km 1 Noicattaro (BA)	10 Km	Cattle, sheep, goats, pigs, horses, chicken, turkeys
Siciliani S.p.A	Str Provinciale per Bitonto Palo Del Colle(BA)	27 Km	Cattle, sheep, goats, pigs, horses, chicken, turkeys
Sud Allevamenti SRL	Str.Prov. Laterza, km 1 Gioia del Colle (BA)	30 Km	Cattle, sheep, goats, pigs, horses, chicken, turkeys
CIES SrL	Contrada Lacometana, 16 Santeramo (BA)	45 Km	Horses
Maselli Carni	Via A. Volta 16 Ruvo di Puglia (BA)	46 Km	Cattle, sheep, goats, pigs, horses, chicken, turkeys
FINSUD Import SRL	Strada Provinciale Cozze Conversano (BA)	24 Km	Cattle, sheep, goats, pigs, horses, chicken, turkeys
Azienda "Itria" Conigli	Contrada Monte Pelusiello Martina Franca (TA)	75 Km	Rabbit
Mattatoio Import-Export	SANTERAMO (Ba)	42 km	Cattle, sheep, goats, pigs, horses
Mattatoio comunale	ALTAMURA (BA)	46 km	Cattle, sheep, goats, pigs, horses

6.1.7 - Foodstuff processing units

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

Students during their own practical training in Food Hygiene take part in all inspective procedures in various public and private foodstuff processing units that process food of animal origin (meat products, dairy products, fish products, etc.). Moreover, regarding veterinary public health, food hygiene, inspection and technology, students have the possibility to directly follow routine activity in public veterinary services and laboratories (Territorial Units of the National Health System and Zoo-prophylactic Institutes).
Departments has entered into several agreements with enterprises and institutions located throughout the entire Italian territory (see Annex 4.3), but a number of public and private foodstuff processing units are also open to the students thanks to informal arrangement directly negotiated by the teachers and the farmers (see Annex 4.4). The list of the most frequently visited farms is given in Table 6.11.

Table 6.11 - Public and private foodstuff processing units where the students carry out practical training.

	Public and Private Institutions	Activity	Location	Distance from the Campus	External tutor supervisor [1]	Internship Coordinators
Eggs production	Azienda "Le Uova d'Oro"	Avicultural farm. Eggs production and packaging	C/da Carnara, CANICATTI' (AG),	665 km	dr. Calogero Montante	prof. Camarda
Meat trade and processing factories	SUD ALLEVAMENTI S.R.L.	Meat processing Factory HACCP in meat production	Strada.Prov.le per Laterza, km 1 GIOIA DEL COLLE (BA)	40 Km		prof. Dambrosio prof. Bonerba
	Azienda Co.Be.Ca	Meat trade and processing	Str. Prov. 231 – CORATO (BA)	55 km		prof. Celano
Milk trade and processing industries	Caseificio "Sanguedolce"	Milk and cheese Dairy	Str. Prov. Andria Trani ANDRIA (BAT)	61 km		prof. Celano
	Granarolo	Milk Dairy	Via prov.le per Casamassima km 32,200 GIOIA DEL COLLE (BA)	40 km		prof. Tantillo prof. Dipinto
	Caseificio Dop	Buffalo mozzarella DOP Dairy	Via Variante, 64 BATTIPAGLIA (Sa)	262 km		prof. Celano
	Centro latte Stasi	Cheese Factory	Zona Industriale – MOLFETTA (Ba)	36 km		prof. Celano
Fish trade and processing factories	Azienda Ittica "Didio"	Processing and trade of fresh and frozen fish	Zona Industriale – MOLFETTA (Ba)	36 km		prof. Dambrosio
	Mercato Ittico	Processing and trade of fresh and frozen fish	Via Banchina San Domenico,6 MOLFETTA (Ba)	36 km		prof. Tantillo prof. Bonerba
	Centro depurazione e spedizione molluschi	Shellfish purification and dispatch center	Via mercato nuovo, 7 TARANTO	85 km		Prof. Tantillo
Canning industry, deep-frozen food industry	Az Conserviera "Conserve Dora"	Canning Industry Food preservation canning and Quality Assurance for the canning Industry	Snc Mellitto GRUMO APPULA (BA)	22 km		prof. Tantillo prof. Dipinto
	Azienda Stoccaggio Dimarno	Platform for the marketing of frozen and deep-frozen food Quality Management System of cold chain	Via Vecchia Buoncammino, ALTAMURA (BA)	46 km		prof. Tantillo prof. Dipinto

6.1.8 - Waste management

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

The waste management policy of the University of Bari is based on current European legislation (CE Law n° 1774/2002; animal by-products; category 1) adopted by Italy with law n° 254/2003 and art. 24 of law n. 179/2002).

A certified company (Antinia s.r.l., Via Contegiacomo, nc - Putignano - Bari) is in charge to periodically collect for destruction (every 15 days) the special containers in which waste material (contaminated sharp instruments, contaminated material such as blood tube, bandages, etc. and chemical toxic/hazardous waste) is temporary stored in the different laboratories or in the Veterinary Teaching Hospital premises.
Carcasses, viscera, as well as any kind of animal waste or biological by-products produced during teaching, research, and diagnostic services in the necropsy hall, in the Veterinary Teaching Hospital or in the research laboratories, are temporary stored in large refrigerators or in the refrigerated rooms available in the section of Pathology ("Vinci Pavillon"). They are then collected on demand by an authorized private company (ditta I.DA.PRO. - Via Istria 80/a, Andria - BA) to be destroyed by incineration. Each department provides for the costs of its own waste.
Moreover, there are special containers in the Vet-Campus for the collection end recycling of batteries, paper, toner, glass, aluminium and plastic. Management of this waste is up the Municipality of Valenzano and paid by University of Bari.

6.1.9 - Future Changes

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

The restoration of the now out of use wing of the Building 07 is expected to have positive effects on the management of several activities that fall within the Veterinary Medicine Degree Course management (organisation of the lectures and supervised practical works scheduled in the New curriculum, maintenance of relations with teachers and researchers coming from abroad, research/educational projects). The restoration project, in fact, envisages the building of Multifunctional Educational Laboratories, a new large classroom, a guest quarter for visitors and a number of experimental/educational laboratories.
The project been approved by the Administration Council for an amount of 800.000 € and the construction is expected to start in 2015 (see for details Chapter 3 - Finances).

6.2 Comments

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

Evidences show that Vet-Campus buildings are adequate for all needs of the undergraduate teaching including those required by the Degree courses other than Veterinary Medicine and by the research activities.
A single structural problem which is frequently raised by students and staff and is worth signalling here, is that the installed air conditioning (heating/cooling) systems are often inadequate and high and low temperatures are reached during the summer and the winter, respectively, especially in some laboratories, staff offices and surgical rooms.

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

As for buildings, the equipment devoted to the undergraduate teaching can be considered fully adequate. It is worth stressing that departmental equipment obtained by teachers following successful application to research funds is also used for the undergraduate training. In general it doesn't occur for training of the whole class but, for example for selected students that, under the supervision of their tutor prepare the dissertation work

Comment on the maintenance of buildings and equipment.

All buildings on the Vet-Campus are currently in fairly good conditions.
Ordinary maintenance of buildings is in charge of the University and major problems are signalled by the departments to the competent office (*Uffico tecnico*) that, within the limit of an annual budget, intervenes to solve the problem. Moisture due to rain infiltration in some premises of the Veterinary Teaching Hospital and Building 02 has been recently repaired. The main lack of such assistance is the long downtime, but it is enough to summon all one's patience and in general the problem is solved.
Minor problems (i.e. the change of the blown bulb) are met directly by the Departments.
The maintenance of non-clinical equipment for teaching purpose is in charge of the Department of Veterinary Medicine. As already stressed in previous chapters, little funding is available for routine maintenance (the endowment fund for operating costs, see Chapter 3 - Finances). Due to this fund curtailment, the foreseeable obvious increase of the maintenance costs of the equipment cause some concerns and additional resources will have to be found to keep the good standard of the equipment for teaching purpose. The current major problem is the maintenance of well working computers and video-projectors in the lecture rooms. Even if sufficient portable PCs and video-projectors are available in the departments and sections to face up to the emergencies, the lack of a steady multimedia station results in loss of lecture time and discomfort by teacher.

6.3 Suggestions

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

No particular suggestions.
With the realization of the already approved restructuring plan of the Building 07 the facilities and equipments available at the Vet-Campus will meet all requirements to offer a quality teaching to the veterinary students.

7 CHAPTER

Animals and Teaching Materials of Animal Origin

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CHAPTER 7 - ANIMALS and TEACHING MATERIAL of ANIMAL ORIGIN

7.1 - FACTUAL INFORMATION

The national law about the protection of animals used for experimental or scientific purposes (n. 116/1992 in application of the EU Directive n. 609/1986) establishes that *"…the National Ministry of Health authorises experiments for teaching purposes only in case of absolute need and whenever it is not possible to utilise other demonstrative systems*".
Therefore, experiments with animals for teaching purposes are not performed in any practical works of Veterinary Medicine Degree course of the University of Bari. Students are allowed to handled healthy animal within respectful of animal welfare and any kind of veterinary treatment is performed only on sick animals.

Animals and material of animal origin are also used in training activities other than Anatomy, Pathology, Animal Production, Food Hygiene/Public health and Clinics.
Starting from the second curriculum year, students undergo their first direct experiences with healthy/sick animals during the courses of Physiology, Microbiology and Immunology, Infectious Diseases, Parasitology and Parasitic Diseases.

Physiology

In the purview of the courses "Veterinary bioethics" and "Animal behaviour", students are introduced in the "Dog Lab" laboratory of the Section of Behavioural Sciences and Animal Bioethics where cognitive and behavioural issues that impact learning and training in dogs are investigated. These Lab activities are designed to familiarize students with basic concepts of dog behaviour and social cognition.
Students' Lab work can be summarised in the activities that are described below.
1. Application of the scientific method to test specific hypotheses in dog behaviour (e.g., students will learn to build the testing apparatus more suited for a particular behavioural experiment);
2. Begin to think about variables and how they are controlled in a behavioural experiment;
3. Begin to design proper controls in an experimental situation;
4. Learning to write the hypothesis, results, discussion, and literature cited sections of a Lab report;
5. Continued development of critical writing skills;
6. Continue learning how to properly present and interpret data.
Students are divided in groups of about 10 (minimum 3; maximum 20) and, on a rota basis, perform different activities (e.g. observation, behavioral score, etc.). This way each student can observe at least four cases per year and its activity is recorded throughout an attendance sing register.

Parasitology and Parasitic Diseases

These subject includes a supervised practical training mainly consisting of laboratory work performed in the laboratories of the Unit of Parasitic Diseases of the Department of Veterinary Medicine (labs 007, 008, 015 - Building 2), as well as in a teaching laboratory, fully equipped with optical microscopies (room 019 - Building 5, "Vinci Pavilion") (see Chapter 6 - Facilities and Equipment).

Students are organised in groups of 10-15 people, depending on the topic of the practical training, and are trained by teachers with the support of technicians, post-docs and PhD students. The laboratory training is finalised to gain practical experience on the laboratory tests used for the diagnosis of the parasitic diseases of animals. These include serological (ELISA, IFAT), parasitological (coprology, cytology on different biological samples, baermann technique), and molecular (PCR, real-time PCR) tests. In addition, students are trained on the identification at species level of endo (e.g., protozoa, tapeworms, roundworms) and ectoparasites (e.g., ticks, fleas and sand flies) of domestic animals.
Furthermore, volunteer students are involved in field activities, related to different working topic, being supervised and coordinated by the Parasitology research team. These studies are carried out in several contexts external to the Department (e.g., kennels, slaughterhouse, farms, breeding centres, faunistic areas), being structured in theoretical lessons and practical activities (e.g., collection of biological samples and ectoparasites).

Microbiology, Immunology and Infectious Diseases

The training in Microbiology, Immunology and Infectious disease includes a supervised practical training consisting of laboratory work, non-clinical animal work and clinical work that provide for the use of animals and materials of animal origin. For these activities, students are organised in groups of 8-10 people depending on the topic of the practical training and are trained by teachers with the support of technicians, post-docs and PhD students. The laboratory work is performed in the laboratories of the Section of Infectious Diseases of the Department of Veterinary Medicine (Labs 014, 023, 024, 025, 032, 033, 034, 035, 036, 037 - Building 2) and of the Isolation Unit of the Animal Hospital (Building 11) (see Chapter 6 - Facilities and Equipments), as well as in the room 019 of Building 5 ("Vinci Pavilion"). The laboratory training is finalised to gain experience on the laboratory tests used for the diagnosis of the viral and bacterial diseases of animals. These include serological (ELISA, SN, AGID, RSA, complement fixation), immunological (evaluation of the leukocyte subsets), bacteriological (Gram, Ziehl-Neelsen and other basic stainings, plates seeding, antibiogram, CMT), virological (cell cultures preparation, virus isolation and titration, microscopic observation of infected cell monolayers, immunofluorescence assay) and molecular (PCR, real-time PCR) tests. Some laboratory training is given at the local section of the National Animal Health Centers (*Istituto Zooprofilattico Sperimentale di Puglia e Basilicata*) with the collaboration of their researchers.
The non-clinical and clinical animal works are carried out in the laboratories of the Section of Infectious Diseases of the Department of Veterinary Medicine, in the Isolation Unit of the Animal Hospital, in slaughterhouses, farms and kennels. This activity consists of a clinical visit of healthy and unhealthy animals with the aim to describe and recognise the clinical signs of the different infectious diseases. Moreover the training regards the correct handling of animals and the good procedures of sampling including the choice of the sample, transport media and delivery of the samples to the diagnostic laboratory. To these aims, animals suffering from the most common non-zoonotic infectious diseases are selected in different farms and kennels located in the countryside around the Campus and are transfer to the Isolation Unit of the Animal Hospital (mainly sheep and goats) or visited in situ. Animals are sampled by collecting blood, milk, faecal, nasal, ocular and genital swabs that are then processed in the lab for the detection of infectious agents. Rapid in-farm and in-clinic tests are carried out for the diagnosis of some infectious diseases (brucellosis, canine parvovirosis, etc.). The movement in/out of animals devoted to this aims is recorded on the relevant register kept at the Isolation Unit of the Animal Hospital. All training activities performed, moreover, are registered on sheets reporting the topic of the practical training that are signed by the attending students.

The students also attend regularly to necropsies on farm and pet animals dead as a consequence of infectious diseases, that are carried out in the necropsy room of the Isolation Unit of the Animal Hospital and are included in the necropsies quoted in table 7.2.

7.1 .1 - Anatomy

Indicate the materials that are used in practical anatomical training, and how these are obtained and stored.

Practical anatomical works are performed during the first training years within the purview of the five courses devoted to this subject: Histology and Embryology, Anatomy of Domestic animals 1 and 2, Neuroanatomy and Topographic Anatomy.
The part of anatomical practice in Avian species, on the contrary, is included in the practical training of Avian Disease described in the following paragraph.
Practical anatomical works take place in the "Vinci Pavilion" (Building 5) in one large dissection room (room 019) equipped with 11 tables and 18 microscopes and in two research/teaching laboratories (lab 007 for scanning electron microscopy and lab 027 for light microscopy) (see Chapter 6 - Facilities and Equipment), where the students attend the practical works in groups of about 25-30, split in sub-groups of 5-6, under the supervision of a teacher assisted by competent staff (technicians, PhD students).
The skeleton of one horse is available to students in the classroom. In addition, the skeletons of one horse, one sheep and one dog together with a collection of multiple canine, bovine, ovine, swine and equine bones and joints are available in an area of the dissecting room. Students work with bones under the supervision of the teacher but are also encouraged to practice alone using textbooks and notes.
Fresh organs and frozen stored carcasses are normally used for dissection and the numbers of animals and animal material used are summarized in Table 7.1.
Cadavers and organs of livestock animals (included equine) are purchased from slaughterhouses, whereas dog and cat carcasses are cadavers submitted by practitioners to the Veterinary Teaching Hospital for necropsy.
Some sessions in the dissecting room – usually 3 per year- consist of the description of different groups of muscles and joints. These sessions are based on wet models prepared immediately before each session by the teacher and his staff and are generally performed on equine heads or legs or on ovine carcasses purchased the slaughterhouse Ciavarella e Saponaro (Noicattaro, Bari) (see Annex 4.3).
Fresh non-pathological visceral organs from a slaughterhouse partner of the Department (Maselli Carni, Ruvo di Puglia - BA - see Annex 4.3) are also used for wet labs of anatomy. Organs are mainly from traditional food producing animals (equine, cattle, pigs, sheep, goats), and include lung, liver, heart, spleen and kidney, in equal percentage. Students attend the dissection of cadavers and organs performed by the teacher standing around the dissecting table but also personally dissect available cadavers under teacher supervision.
Both carcasses and organs are transported to the Campus in special cases approved for this purposes, which are made available by the Pathological Anatomy section. All wet material used is properly stored in a refrigerated room adjacent to the anatomical dissection room.
Plastic preparations are also available to students for some sections of Topographic Anatomy or when fresh organs are insufficient.

Table 7.1 - Material used in practical anatomical training

	dog		ruminants		equine		Other	
	2012	2013	2012	2013	2012	2013	2012	2013
Live animals	-	-	-	-	-	-	-	-
Cadavers	17	13	10[a]	10[a]	8[b]	8[b]	80[c]	40[d]
Specimen*	-	-	145	150	180	120	55	90
Other	§	§	§	§	§	§	§	§
eg ultrasound	-	-	-	-	-	-	-	-
Computer assisted teaching	-	-	-	-	-	-	-	-

[a] ovines
[b] heads and legs
[c] poultries and rabbits; [d] poultry
* organs from ruminants, equine, swine and others are expressed as approximate Kg/years
§ Multiple collection of bones and joint, including special joint models and plastic preparations.

Before the practical course in histology begins, students spent 2 hours in the research and educational lab 026 (see Chapter 6 - Facilities and Equipment) where practical demonstration of procedures to prepare histology slides is offered to groups of about 10 students each.
For practical training in histology students work at microscope, by sharing one instrument every two persons. They examine slides of the different organs of the body systems, with the aid of a display screen connected to the master microscope manipulated by the teacher. Multiple sets of normal tissues of all different organs from domestic animal species (dog, cat, horse, cow, pig, sheep, goat) are available for students.

7.1 .2 - Pathology

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

Table 7.6 reports the number of necropsies performed over the past three years by academic staff of the Department of Veterinary Medicine involved in the pathology teaching. During their training in Infectious disease, moreover, students can be also involved in diagnostic necropsies occasionally performed by the staff of these sections. These cases are added in necropsies listed in table 7.2.
Practical anatomo-pathological works take place in two necropsy rooms located at the "Vinci Pavilion" (Building 5) equipped with 5 tables (room 018) and with 3 table (room 022), the latter dedicated to the works in avian pathology, and in two teaching laboratory for histological and immunohistochemical works respectively located at the Building 6 (labs 023 and 024 equipped with1 microscopes) (see Chapter 6 - Facilities and Equipment).

Table 7.2 - Number of diagnostic necropsies over the past three years.

SPECIES		Number of necropsies			Average (year)
		2013	2012	2011	
Food-producing animals	Cattle	17	56**	9	50
	Small ruminants	25	2	13	
	Pigs	16	4	2	
	Other farm animals[1]	2	4	0	
Equine		9	5	0	4.6
Poultry[2]		103	40	90	77.6
Rabbits[3]		106	104	93	101
Companion animals/exotic	Dogs	97	64	64	141.66
	Cats	13	21	13	
	Other[4]	32	61	60	

[1] buffalo and wild boar.
[2] including 10 (2013) quails.
[3] including 10 (2011), 16 (2012) and 15 (2013) hares
[4] exotic/wild animals including sea turtles, dolphins, sea lions, deer, martens, badgers, foxes, feral cats, wild/cage birds and sharks.
** 32 performed thanks to the good offices of veterinaries of the public health service (see text).

Both carcasses and organs of different animal species are used during General Pathology (II year, III two-month teaching period), Pathological Anatomy and Necropsy Techniques (III year, IV two-month teaching period) courses, being the last subject mainly based on practical activity.
After the collection, in the event of pathological cases cadavers are either distributed or shared for use in different disciplines (e.g., necropsy techniques, General Pathology and Pathological Anatomy).
Domestic animals come mainly from the Veterinary Teaching Hospital but also from private practices, shelters and occasionally from the animal owners. These animals died for non-zoonotic diseases or were euthanized for humane reasons.
Large animals, mainly small ruminants and swine, are collected from Veterinary Teaching Hospital and occasionally from the livestock farms located in the neighbourhood. Additional sources for necropsies and pathological anatomy practical training are wildlife animals conveyed to the Department by private practice, by State Veterinary Officers of different Territorial Units of the National Health System or by zoos and centre for the wild fauna protection.
During training in Animal Pathology, students participate in collecting case history and clinical data. They take actively part in groups of 6-8 in the necropsy opening major cavities, examining organs, and then discussing macroscopic lesions with the pathologists. Students also collect samples for additional exams (bacteriology, virology, toxicology) and for histology.
For necropsies coming from the Veterinary Teaching Hospital, students can follow the complete case from the first consultation to the necropsy.
Necropsies are usually performed at the Necropsy room of the Veterinary Medicine Department, with the exception of field necropsies of large animals, particularly cattle and equine, which are performed outside, in the farms, for facilitating procedures. In fact, two main problems have

limited the number of large animal necropsies performed in the Necropsy room: a) the costs of transportation of large animal carcasses to the Campus and b) the costs of carcass disposal, which are charged to the Department.
These problems were particularly felt in 2011. During 2012, to provisionally face the problem and offer a reasonable training in Necropsy techniques and Pathological Anatomy, the ex-Faculty arranged with the veterinaries of the public health service to engage groups of students, seen by the pathologist teacher, to their routine necropsy activities.
Starting from 2013, with the purpose of increasing the case load for large animal necropsies, the pathologist staff involved in this specific area instituted an external activity for large animal necropsies within private farms located in the countryside around the Campus (Noci, Mottola, Massafra and Gioia del Colle), that have formal or collaborative agreements with the Department or that are brought to the attention of the pathology section being referred by practitioners and veterinarians of public health service. These autopsies are performed directly at the farm mainly for didactic, but also for diagnostic purposes and are cost-free for the farmer. Then, the farm provides to dispose of the carcass. In this way, being the service totally free, it is possible envisage to perform an average of 20 in field large animal (bovine, equine) necropsies per year**.**
Every necropsy is performed by a group of 8-10 students assisted by the teacher. They reach the farm by the dedicated mini-bus for student activities in field or, in some cases, by their own vehicles. The number of autopsies on large animals performed according to this procedure "on farm" are enclosed in necropsies listed in table 7.2.
In the last year, moreover, the chances to perform large animals necropsies at the Necropsy room of the Department have been improved thanks to a profitable contract bargained by the responsible of the waste management (prof. Giuseppe Passantino) with the authorized firm I.DA.PRO (Andria-BA) that allows to discharge the organs and carcasses at more bearable costs.

Gross pathology is also performed on isolated fresh condemned organs (mostly heart, lung, thyroid, diaphragm, liver, spleen, kidney and adrenals, mammary gland, testes, uterus and ovary, fore-stomach, stomach, intestine, pancreas, brains) collected from a local slaughterhouse in partnership with the Department (Siciliani S.p.A., Palo del Colle - BA, see Annex 4.3)

During the training in avian pathology students, split in small groups (3 students working on 1 carcass), perform practical works on avian species, rabbits and wild/exotic species. They are trained to perform the necropsies of these animal species, to recognize their anatomical features, to interpret gross pathological lesions and to collect samples for additional exams (bacteriology, virology, toxicology) and for histology.
These animal species are either donated or purchased from local farms or come mainly from the Veterinary Teaching Hospital, from private practices, occasionally from the animal owners and from partnership Recovery Centre for the Wild Fauna. Recently (2013) as a consequence of the health care services call to the Department of Veterinary Medicine by the Regional faunal observatory station (see Annex 4.3), necropsies and clinical activities (see below) on wild birds have underwent a strong increase.

All pathological material entering the necropsy room, along with that entering the dissection hall (see table 7.2a) is collected and discharged according to European laws (i.e. EC Regulation 1774/02) (see Chapter 6 - Facilities and Equipment, paragraph 6.1.9). Therefore, students during their attendance to the lectures and practical works in Pathology classes are trained also about management of biological waste and safety procedures associated with necropsies.

Table 7.2a - Waste material convey to destruction during the last three years (carcasses and organs including organs for anatomy training).

	2011	2012	July 2013
Weight (kg)	3.150	3.820	2.980
Costs (€)	3.789	4.405	2.704

Additional teaching material of animal origin for Veterinary Pathology includes surgical biopsies provided by the veterinary clinics and private practices. It is exploited to perform practical training in histopathology that takes place mainly in the 4th two months period of the 3rd year.
Students attend practical training in histopathology split in group of 10-15 each.
They have to follow a practical training in the histopathology laboratory to learn the main standard laboratory procedure to process and to stain histopathological samples. A collection of slides prepared from most common species (dog, cat, bovine, small ruminants, equine, swine), encompassing the basic pathological processes and the common disease encountered in system pathologies, including the Oncology diseases, are also available for student training.
Slides are projected in classroom with examples of normal organs and tissues for comparison or are submitted to students of the professionalising 5th year in the microscopy room (room 019 of "Vinci Pavilion", see Chapter 6 - Facilities and Equipment) along with the aid of a display screen connected to the master microscope. Slides are also available to students on demand.

7.1.3 - Animal Production

Indicate the availability of food-producing animals for the practical teaching of students
a) on the site of the institution;
b) on other sites to which the institution has access.

a) From 2010 to 2011 food producing animals available for practical teaching at the Vet-Campus were:

- 1 dairy cow
- 2 horses
- 1 sow and 4 fattening pigs
- 2 goats and 4 dairy ewes
- 1 Mediterranean buffalo

In the 2012 the Department decided to reduce animals reared in Campus used for practical teaching both for funds and staff members reductions (not availability of labour during all the year for animal management) and for a didactical choice: animal production practical teaching needs of real farms and not of some head to explain management, genetic selection, feeding, animal welfare, animal hygiene, and so on. For these reasons animal reared for practical teaching in Animal Production are only some ewes, goats and pigs.

Starting from 2013 the Section of Veterinary Clinics and Animal Production of the D.E.O.T. created an experimental henhouse with 60 lying hens and 10 turkeys, used also for practical activities in Animal Productions for students and a small experimental feedstuff factory is from short time ago become effective.
Starting from 2010, moreover, the ex-Faculty and actual Department of Veterinary Medicine has Honeybees kept at the experimental apiary managed by the teaching group of Food Safety Unit.

b) Students perform practical training in food-producing animals, including the aquatic species (see further on paragraph 7.1.11), with regards to breeding and genetics, morphological evaluation, nutrition, rearing techniques and animal welfare, on live animals at private farms which accept to receive students after formal agreement with the Veterinary Medicine Department or after informal arrangement directly negotiated by the teachers and the farmers (see Chapter 5 - Teaching: quality and evaluation).
Practical training on avian species and rabbits are also performed in teamwork with the teaching staff of the Avian Disease Unit.
Shelters and kennels are also included in formal or informal cooperative agreements to allow students to carry out practical activity on nutrition and management of dogs and cats as well.
For the complete list of formal agreements and personal arrangement entered into between the different structures and the Department or teachers see the Annexe 4.3 and Annexe 4.4.
Students reach the farms by bus each time rented (big groups) or by the dedicated mini-bus for student activities in field or, in some cases, by teacher's or their own vehicle.
In table 7.2b is shown the total number of public and private plants involved in the non clinical animal works carried out during the training in Animal Production, in the last 3 years.

Table 7.2b - Total number of farms and public and private institution involved in the 3 last years in the non clinical animal works for Animal Production.

Category	N° of teaching agreements[1]	
	Formal (n)	Informal (n)
Slaughterhouse	4	4
Dairy and beef cattle farms	4	25[2]
Horse farms, breeding centre, racetrack and riding school	7[3]	9
Pig farms	1	3
Sheep/goats farms		2
Poultry/rabbit farms	2/1	13/3
Aquaculture farms		7
Regional Farmer Association	1	
Feedstuff factory	1	1

[1] see also Annex 4.3 and Annex 4.4
[2] included buffalo farm
[3] included CEMIVET

"Core" training

Farms and institutions are visited by all students, usually in large groups (40-50 students), during the training activities that they attend within the purview of Animal Production 1 and 2 courses (2nd year curriculum). In this case private farms accept students after informal agreements. Once reached the plants, students are shared in groups of about 10 and involved by rotation in different activities under the guidance of the teacher and the tutoring of the veterinaries working in situ.
Every student, in fact has to visit at least a slaughterhouse during the 2nd year, a horse reproduction centre (stud farm) or a racetrack and a dairy cow farm. According to the teacher and to the farmers' availability, students can visit also a sheep-goat farms, veal calves farms and a swine intensive farm.
Each student has to attend the following practical activities: morphological evaluation of different species and productive aptitudes, morphological measurements, identification techniques, coats evaluation, age determination by teeth, slaughtering techniques, evaluation of weight gain, dressing percentage, carcass evaluation according to EU regulations, bovine dairy farm management, qualitative evaluation of feed and total mixed ration, milking techniques in dairy cows, weaning techniques in calves, heifer management, drying techniques in cows.
For each visit students fill out a file were list the date of the visit, the structure visited and the performed activities, signed both by the student and by the teacher.

"Elective" training (Professionalizing Didactic Path - PDP, 5ht year)

Strictly hands-on activities in small groups (3-5 students) are also carried out in farm and plants during the 5th year selected training (see Chapter 4 - Curriculum), under the guidance of the Animal Production teaching group. All training activities performed are registered on the personal PDP Logbooks that is signed by the teacher supervisor.

Practical supervised activities ("tirocinio")

The "*tirocinio*" activities allow the students to perform extramural trainings at structures operating with the Veterinary Medicine Degree Department under formal agreement. This activity is supervised by local selected veterinary tutors but is always under the supervision of the academic teaching staff (see Chapter 4 - Curriculum). The extramural training is optional and it is linked to the student possibility to reach by themselves farms and to the number of students that farm may accept. Students that perform the "*tirocinio*" at the Vet-Campus, on the contrary, alternate the prevailing laboratory activities with in farms intramural trainings by assisting the teachers during at least 1-2 on call or experimental activities.
Table 7.2c reports the number of students that carried out extramural or intramural "tirocinio" in the last three years.

Table 7.2.c - Number of students performing extramural or intramural practical supervised activity ("*tirocinio*") during the last three years.

Year	Extramural (15 days)	Intramural (1-2 visits)
2011	38	68
2012	24	95
2013	28	95

All training activities performed are registered on the personal "*tirocinio*" Logbooks that is signed by the teacher supervisor.

Finally students that chose to draw up their final dissertation (thesis) in Animal Production had the opportunity to practice, both in field and in laboratory, in donkey milk and meat production, artificial suckling in donkeys, horse meat quality, veal calf meat and modified atmosphere packaging, lactating ewe welfare and overstocking.

7.1 .4 - Food hygiene/Public Health

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

The teacher staff of the Food Safety section organize on-site practical trainings of meat inspection (labs 025, 026, 027, 028, 029, 036 at ground floor and 027, 039 at first floor - Building 2) during which groups of about 10-15 students perform direct, hands-on evaluation of visceral organs from bovine, small ruminants, equine and swine, poultry carcasses, molluscs, fishes etc. to reveal gross lesions related to the food inspection and to recognise possible commercial frauds concerning the latter species as well as to assess their quality and safety. Viscera and carcasses affected by the most frequent lesions found meat inspection come from many slaughterhouses of the Apulia Region and from seafood markets already mentioned in paragraph 4.1.5 and quoted in Annex 4.3 and Annex 4.4.
Material available for practical works in food hygiene and public health is summarized in table 7.2d.

Table 7.2d - Organs and carcasses used for Food Hygiene and Public health practical activities

	2011	2012	2013	Average
Organs from food producing animals* (kg/year)	220	270	240	243
Poultry carcasses (n°/year)	60	80	50	63
Fishes and molluscs (kg/year)	90	120	95	102
Rabbit carcasses (n°/year)	40	55	30	42

* bovine, equine, small ruminants, swine

Activities involving products of animal origin are moreover organised in food microbiology, bio-molecular and chemical laboratories of the Food Safety section of the Department of Veterinary Medicine where students can carry out the main routine analyses that are performed on different food samples.
In addition to on-site training on commercial products and organs, visits to meat and dairy factories and to slaughterhouses are also performed. Each student has to joint at least three visit to slaughterhouse where, under the supervision of the teacher and the Official Veterinary Inspector, evaluates different species of animals. The student is involved in practical session

dealing with animal welfare, ante-mortem inspection, butchering phases and post-mortem inspection.

During the "*tirocinio*" supervised practical activities and the last selected professionalizing track, further animals and products of animals origins are available for the students attending their extramural works, or intramural works developed out-side, at the Laboratories of the Zoo-Prophylactic Institutes, at different food industries and at dairy farms.
It is difficult to quantify the mean number of animals and the mean quantity of products of animal origin that are available for students in these training activities because students can be involved in different subjects (food analyses, Community legislation on food safety, production processes an hygiene of food industries, HACCP system in the control of food hygiene, meat inspection, market and food store inspection, etc,) depending on the availability of the partnership laboratories and industries and on the Professionalizing Path selected.

7.1 .5 - Consultations and patient flow service

7.1 .5.1 - Consultations

- State the number of weeks, in the course of the year, during which the clinics are open.
- State the number of consultation days each week.
- State the consultation hours.

Since 2004, all clinical activities of the Veterinary Medicine Degree Course have been performed at the new facilities of the Veterinary Teaching Hospital (VTH). The routine activity is carried out from 8.00 a.m. to 6.00 p.m. for five days a week (Monday-Friday) for 50 weeks throughout the year (one week break at Christmas and a second one in mid-August), mostly by appointment.
All the services offered are available for companion animals, exotic, large and wild animals. Since 2012 a hospitalization, emergency and intensive care service is also provided at the VTH for 24 hours a day, during the whole year.
Before 2012 the training on emergency medicine was provided to the scheduled students by private veterinary clinics in Bari (see Annex 4.3), where the students had the opportunity to be involved in the veterinary night-time services.
The Academic staff involved in the clinical activities of the Veterinary Teaching Hospital is listed in table 7.2e

Table 7.2e - Academic staff involved in the clinical activities of the Vet-Campus Veterinary Teaching Hospital

Name	Discipline	Department	Role
Prof Antonio Di Bello	Surgery	DVM	AP
Prof Carmela Valastro	Surgery	DVM	Agg P
PROF Delia Franchini	Surgery	DVM	Agg P
Prof. Donato De Caprariis	Internal Medicine	DVM	AP
Prof Antonio Crovace	Surgery	DEOT	FP
Prof Luca Lacitignola	Surgery	DEOT	Agg P
Prof Francesco Staffieri	Surgery	DEOT	Agg P
Prof Ferruccio Petazzi	Internal Medicine	DEOT	FP
Prof Luigi Ceci	Internal Medicine	DEOT	FP
Prof. Grazia Carelli	Internal Medicine	DEOT	AP
Prof. Teresa Sassanelli	Internal Medicine	DEOT	AP
Prof Paola Paradies	Internal Medicine	DEOT	Agg P
Prof. Fabrizio Iarussi	Internal Medicine	DEOT	Agg P
Prof. Giuseppe Rubino	Internal Medicine	DEOT	Agg P
Prof. Raffaele Scorsci	Obstetrics	DEOT	FP
Prof. Giovanni Lacalandra	Obstetrics	DEOT	FP
Prof. Michele Caira	Obstetrics	DEOT	FP
Prof. Luisa Valentini	Obstetrics	DEOT	AP
Prof. Mario Cinone	Obstetrics	DEOT	AP
Prof. Annalisa Rizzo	Obstetrics	DEOT	Agg P
Prof. Giulio Aiudi	Obstetrics	DEOT	Agg P

DVM: Department of Veterinary Medicine; DEOT: Section of Veterinary Clinics and Animal Production of the Department of Emergencies and Organ Transplantation;
FP: Full Professor; AP: Associate Professor; Agg P : Aggregate Professor/researcher.

7.1 .5.2 - Patient flow service

The number of animals to be stated are for all disciplines combined (medicine, surgery, reproduction, etc.).
In Table 7.3 only animals coming into the Faculty should be included. Animals studied in practical teaching outside the Faculty should be entered in the section entitled "Ambulatory Clinic" (Table 7.4.3).
The term "consultation" refers to those patients which come in and go out during daily consultation hours. "Hospitalisation" refers to those patients which are retained in the clinic as "in patients" following presentation.

The VTH accept small, large and non conventional animals for 1st opinion, referral (2nd opinion from practitioners) or emergency cases.

Unique reception employs administrative staff supported by students for registering cases and collect signalmen. An academic staff clinician on duty at Emergency service assesses urgency of the case (triage) and refers case to proper clinician. Students assist the clinician in clinical procedures and in case discussion with the owner.
Three types of consultations are available for not emergency cases.

- **Simple consultation** – 1st or 2nd opinion cases that not need hospitalization, immediate or intensive cares, or follow-up consultations.
- **Day-hospital/day surgery** – Elective procedures (including simple surgery) with admission at morning and discharge in the evening.
- **Fully hospitalization.** – Cases that need continuous cares related to their pathology or post-operative cares.

Following the new departmental organization the two different clinical Departments (DVM and the Section of Veterinary Clinics and Animal Production of the DEOT) are independently organized, in terms of clinical management, equipment and funding.

The number of animals received for "consultation" and hospitalised at the Veterinary Teaching Hospital from 2011 to 2013 is summarized in Table 7.3.

Table 7.3 - Number of cases: a) received for consultation and b) hospitalised at Veterinary Teaching Hospital in the past three years.

SPECIES		Number of cases						Average
		2011		2012		2013		
		a	b	a	b	a	b	
Food producing animals	Bovine		1	1	1	1	1	70.33
	Ovine/caprine	41	41	12	12	19	19	
	Porcine	4	4	7	7	20	20	
	Other farm animals*	-	-	-	-	-	-	
Poultry		0	0	0	0	0	0	16.66
Rabbits*		24	0	16	0	10	0	
Equine		511	57	342	23	187	24	381.33
Companion animals/exotics	Dog	2883	38	3680	264	2586	439	4743
	Cats	690	10	2038	255	764	99	
	Other**	122	23	89	16	217	16	

* companion rabbits
** wild birds, cage birds, small rodents, tortoise, sea turtles

7.1 .6 - Vehicles for animals transport

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

No vehicles are available to transport alive animals. Private owners transport their own animals to the Veterinary Teaching Hospital, particularly for companion animals, horses or small ruminants. Regarding the wild animals, birds and mammals are referred to the Veterinary Teaching Hospital

by the vehicles of affiliated organizations (i.e. Arefpuglia, Puglia region), the Provincial Police Service, the State Forestry Corps, whereas sea turtles are transported by vehicles of sea turtle rescue centre.
Two 9 seats minibus, namely a Ford Transit (Car registration no. BY342DK) and an Opel Vivaro (Car registration no. DZ929GF), and a 7 seats Renault Espace (Car registration no. CB984HK) are available at the Vet-Campus. These cannot be used to transport live animals but are mainly used for outside visits with students. Organs or material of animal origin, stored in special boxes, are transported by the Opel Vivaro minibus authorized for this purpose.

7.1 .7 - On-call Emergency Service

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

Since 2012 the emergency service has been activated and it is operating 24 hours/day, 7 days/week at the Veterinary Teaching Hospital (room 002 at Building 08b and room 002 at Building 08a, see Chapter 6 - Facilities and Equipments). This service is active for small, large, exotic and wild animals. Emergency service is coordinated and supervised by members of the clinical teaching staff and covers emergencies in internal medicine, surgery and obstetrics. A unique reception collects signalmen from owner's and refers cases to clinician on duty at Emergency Service.
Clinician on duty at Emergency Service during the week from 8:00 am to 6:00 pm is a member of clinical Academic staff. He is responsible for the triage, the referral to proper specialization, the supervision of students for therapies and emergency procedures at hospitalization or intensive care or external emergency occurred. During day-time 10-12 students ("*tirocinio*", educational pathway, internal students) follow hospitalized cases or attend clinicians during diagnostic and therapeutic procedures of new ones, update records and discuss cases with the supervisor.
During night shifts from 6:00 pm to 8:00 am and during holydays, 3 veterinary practitioners (Not Academic), recruited by a selection based on scientific and teaching competences, supervise students for Emergency, standard and intensive care of hospitalized cases. Six to 8 students are scheduled per rotation.
Large animal Emergency (Equine Emergencies) is organized by on-call service. Emergencies occurred in daytime are dealt by respective clinical staff according proper competence; while during night shifts and public holydays surgeons on call evaluate cases referred together with practitioner who refers the case, and together with Supervisor and students on duty at Emergency Service hospitalize patient for diagnostic and treatment procedures.

7.1 .8 - On farm teaching and outside patient care

7.1 .8.1 - Ambulatory (Mobile) Clinic

The Ambulatory (Mobile) Clinic is defined as a unit which provides on-call outside services to farms and other institutions and is generally operated on a commercial basis.

The Mobile clinic services are available to the clinic of cattle and small ruminants, poultry and wild birds and for the health service in municipal kennels. The Ambulatory service in the clinic for cattle is called for individual cases as well as for herd visits. The Ambulatory service in the clinic for small ruminants, poultry and rabbits performs herd visits and sanitary controls on farms through the collection of blood, faeces and other biological samples.
The Ambulatory service in the clinic for dogs in municipal kennels perform individual visits to monitor the health controls related with infectious and parasitic diseases as well as other medical and surgical diseases. The Ambulatory service in the clinic for wild birds and wild mammals performs periodic visits (2 - 3 times per week) at the regional rescue centre (AREF Puglia).
Cases requiring further diagnostic investigation or surgery are referred to the Veterinary Teaching Hospital.

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

The Mobile Clinic service is active, generally, one day a week, from h 8.00 to h 15.00 (7 h/per week). Small groups of students (6-7 students) are turned and supervised in their activities by two teachers of the clinics and infectious and parasitic diseases. This is a mandatory activity for students and attendance is checked. The Emergency service for farm and for wildlife animals operates with a call system (daytime h.8.00-18.00/48 weeks/per year). The phone numbers of the Clinical Service are 080-4679872 and 388-4911082.

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

The 9 seats minibus Opel Vivaro (Car registration no. DZ929GF) is used for the Mobile Clinic service since it can transport all instruments for a field-based clinical visit.

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

The number of sick animals seen by the ambulatory clinic per year during the past three years is quoted in Table 7.4a.

Table 7.4a - Number of cases seen by the Ambulatory (mobile clinics) in the past three years.

SPECIES		Number of cases			Average
		2011	2012	2013	
Food producing animals	Cattle	242	306	391	386,3
	Small ruminants	2	28	90	
	Pigs	10	60	30	
	Other farm animals	-	-	-	
Poultry (n° of flocks)		6	4	6	6.33
Rabbits (n° production units)		1	1	1	
Poultry (single cases) *		135	126	125	191.6
Rabbits (single cases) *		8	44	60	
Equine		5	58	9	23.00
Others		15[1]	18[2]	44[2]	25.67

* in table have been also quoted the poultry and rabbit cases seen on outside teaching as they are significant for the training in Avian Pathology

[1] hares and [2] wild birds

In table 7.4abis the herd-health services supplied by the Infectious Diseases Unit for the diagnosis and prevention of infectious disease are quoted.

Table 7.4abis - Number of herds visited on call.

SPECIES		Number of visit			Average
		2011	2012	2013	
Food producing animals	Cattle	17	18	16	23
	Small ruminants			7	
	Pigs	2	2	2	
	Other farm animals*			5	
Equine (donkey)		1	2	1	1.33

* buffalo

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

An average number of 110-130 visits per year to farm or other institutions were carried out using Ambulatory clinic.

7.1 .8.2 - Other on farm services and outside teaching

If there is no on duty Ambulatory (Mobile) clinic, a Faculty may have defined contracts with farms or other institutions to allow for outside teaching and patient care. Similarly, a Faculty may provide herd-health services. Please indicate if and to what extent this applies to your Faculty.
If applicable please provide no. of patients seen on outside teaching

All cases and herd-health services seen outside the Veterinary Teaching Hospital are reported in table 7.4a and table 7.4abis.

7.1 .9 - Other information

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

The Departments have formal and informal agreements with kennels and shelters where students can do clinical training under the supervision of teachers or external tutors (see Annex 4.3 and Annex 4.4). In particular, since 2012 the Section of Veterinary Clinics and Animal Productions of the DEOT has an official agreement with one of the largest shelter in the area (TASHA COOP), which has an overage occupancy of 1000 dogs (and also some cats). The agreement includes a full medical assistance for regular and emergency cases 24 h/day 7 days/week. The shelter is equipped with vehicles for animal transportation by which the animals are transported to the Veterinary Teaching Hospital for the assistance. This agreement gave the opportunity to increase the emergency caseload since the opening of the service.
Since 2002 the Department of Veterinary Medicine has an official agreement with the slaughterhouse Saponaro & Ciavarella located in Noicattaro (15 km from the Campus) where the students under the supervision of members of the teaching staff of internal medicine, obstetrics, infectious diseases and parasitology, may do clinical works on animals awaiting slaughter (cattle, horses, small ruminants and pigs).
Department of Veterinary Medicine has also been called to provide medical assistance and professional advice on the management of wild birds shelter at Regional faunal observatory station (Bitetto - BA) and of donkey breeding at the Centre for the conservation of Martina Franca donkey genetic inheritance (Martina Franca -TA).

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

The Veterinary Teaching Hospital at the Vet-Campus is the largest and the only large and small animal hospital in the nearby regions. In the area of Bari most of the private practice are small practices that work only daytime and have minimal equipment for diagnosis and treatment of the

animals. There are very few veterinary clinics (3-4) in the area that work 24/day and 7 days/week and most of them collaborate with the Veterinary Teaching Hospital for some external rotations of the students. Moreover the VTH is one of the few practice in the area that can guarantee a complete diagnostic process and therapeutic all inside the clinic with the highest specialization and competences in different fields of the veterinary medicine. Many clinicians working at the Veterinary Teaching Hospital are opinion leaders in their field and often practitioner refer them more complicated cases.

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

About 60% of the cases of internal medicine are first opinions and the remaining 40% are referrals. For Surgery and Reproduction approximately 20% of all patients are first opinions and 80% are referrals. The relationship with outside practitioners is generally good.

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

The VTH offers several fields of specialization with the respective services:

- Anaesthesia, Intensive Care and Emergency
- Cardiology
- Dentistry and Oral Surgery
- Dermatology
- Diagnostic imaging
- Diagnostic Laboratories
- Equine Surgery
- Exotic Animals Medicine and Surgery
- Internal Medicine
- Neurology and neurosurgery
- Nutrition
- Oncology (medicine and surgery)
- Ophthalmology (medicine and surgery)
- Reproduction
- Small Animals Orthopaedic Surgery
- Small Animals Soft tissue Surgery

Al the services are coordinated by a staff member with the help of other colleagues, technicians and, in some cases, of PhD Students. These services guarantee the continue activity during the daytime in the week days (8:00 AM to 6:00 PM from Monday to Friday) and for specific disciplines an on-call service is contemplated for night time and holidays.

A clinic valued service on cases of infectious diseases mainly for of dog and cats is offered by the staff of the Infectious Disease and Parasitology Units that can make use of suitable facilities at the Isolation Unit of the Veterinary Teaching Hospital.

Concerning wildlife the Veterinary Teaching Hospital is a referral centre for treatment, intensive care and rehabilitation of sea turtles. Because of the expertise of surgeons and internists agreements with National institutions for the protection of these species (WWF sea turtle project, *Legambiente*) and most of the rescue centres of southern Italy have been established. Especially from March to October many sea turtle accidentally catch by fishing gear are hospitalized.

Indicate the relationship the Faculty has with outside practitioners (in small companion animals, equines and production animals) in terms of matters such as referral work, providing diagnostic or advisory services for private practitioners, practitioners participating in teaching, holiday or 'seeing practice' work for students, feedback on the level of clinical training.
Describe (if applicable) any other relationships with outside organisations that are routinely used to provide students with training (in particular practical training) in other clinical subjects (e.g. pathology work, interaction with state veterinary work).

The Veterinary Teaching Hospital is landmark of many outside practitioners in many regions of southern Italy (e.g., Puglia, Calabria, Basilicata). About relationships with private practitioners in the province of Bari there are some critical points since some private clinics that are within 50 km of distance, consider the Veterinary Teaching Hospital as a competitor to their activities and not as a scientific reference centre.
The relationship with major veterinary clinics of Bari is very good. These clinics are equipped with great installations and equipment and highly qualified staff. The same structures have provided an important support in the activity of the *tirocinio* before the hospital was open for 52 weeks throughout the year.
About referred cases, practitioners receive a detailed report including all test results, therapies performed and therapeutic indication, after the patient has been discharged. This allows private practitioners to continue to follow their patients.
Nevertheless clinical cases for cattle and small ruminants have increased over the 2004 due to specific collaborations with private practitioners specialized in bovine and small ruminant medicine.
These specialists are accompanied by the students in daily routine and emergency health care for ruminants in client farms within a 100 km radius of the hospital. These activities are carried out under the supervision of the teaching staff, regularly, three or four times a month and whenever there is an emergency. Our goal is to care for our client's animals with expert knowledge, state-of-the-art equipment, while providing clinical training to veterinary students.

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

When animals arrive at the hospital, either for a first-time visit or for a consultancy visit (a case referred by practitioners), or for emergency cases, an admission folder will be given and properly filled. The admission folder contains data of the owners of the animal, the anamnestic history, the clinical relevance/priority and, eventually the practitioner requiring the consultancy.
The folders are numbered consecutively, and the data are put into a databases stored on a computer located in the common reception hall. The folders will be completed with the clinical records inherent the clinical history of the patient. The folders are filled by the students that follow the admitted animal, and are stored in a card index cabinet in the emergency room.

When the animal is discharged from the hospital, the Hospital charges and physician services are billed. The charged fees are established on the basis of the the National Federation of Italian Veterinarian Corporations (FNOVI, *Federazione Nazionale Ordine Veterinari Italiani*).
The clinical cases of farm animals seen inside the Campus, are required from the teaching staff of the Department. These animals are brought to the hospital by farmers upon specific request of the teachers, in order to optimize the teaching activity. Therefore the hospital does not charge the farmers for these hospitalized animals.
Moreover, interesting referral cases by external colleagues, are often supplied free of charge.

7.1 .10 - Ratios

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

Table 7.5 - Animals available for clinical training (in the Veterinary teaching Hospital or seen through the ambulatory clinic) as ratio of the number of students in last full year of clinical training.

Ratios				Calculated Denominator	Established Denominator by ECOVE
R 11	n° of students graduating annually* / n° of food producing animals seen within the Vet-Campus	=	67.2 / 70.33	1 / 1.046	↑ 0.956
R 12	n° of students graduating annually* / n° of individual food animals consultations outside the Vet-Campus	=	67.2 / 386.3	1 / 5.749	↑ 7.345
R 13	n° of students graduating annually* / n° of herd health visits	=	67.2 / 24.3	1 / 0.362	↑ 0.307
R 14	n° of students graduating annually* / n° of equine cases	=	67.2 / 381.33	1 / 5.67	↑ 2.590
R 15	n° of students graduating annually* / n° of poultry/rabbit cases	=	67.2 / 208.32[1]	1 / 3.1	↑ 0.505
R 16	n° of students graduating annually* / n° of companion animals seen within the Campus	=	67.2 / 4743	1 / 70.58	↑ 43.462
R 17	n° of students graduating annually* / Poultry (flocks)/rabbits (production units) seen	=	67.2 / 6.33	1 / 0.094	↑ 0.040

*mean number of students graduating in the last 5 year (see Chapter 9 - Student Admission and Enrolment, Table 9.4); [1] see table 7.4a.

Table 7.6 - Animals available for necropsy

Ratios				Calculated Denominator	Established Denominator by ECOVE
R 18	n° of students graduated annually / n° necropsies food-producing animals + equine	=	67.2 / 54.6	1 / 0.812	↑ 0.998
R 19	n° of students graduated annually / n° poultry/rabbit necropsies	=	67.2 / 178.6	1 / 2.657	↑ 0.547
R 20	n° of students graduated annually / n° necropsies companion animals	=	67.2 / 141.6	1 / 2.107	↑ 1.498

*mean number of students graduating in the last 5 year (see Chapter 9 - Student Admission and Enrolment, Table 9.5)

7.1.11 - Other Species

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

In the second year of the Curriculum, during the Animal production 2 course, it is provided a discretionary seminar on Aquaculture techniques. In the last three years the mean number of students participating to the seminars are almost 2-4 persons.
At the fifth year of the curriculum, during the Professionalizing Didactic Path (PDP) in "Food producing animals" students follow a lesson about Aquaculture and 2 technical visits in aquaculture plants evaluating the management techniques, fish feeding, reproduction and water recirculation system.
In the "PDP" in "Public Health" students follow a lesson about Aquaculture and 2 technical visits in aquaculture and fish processing and commercialization plants evaluating the critical points from an hygienic and sanitary perspective of aquaculture and fish processing plants.
In the "PDP" in "Pets" students follow a technical visit in the biggest company in south of Italy working in importation and distribution of tropical fish.

7.2 COMMENT

Comment on major developments in the clinical services, now and in the near future

Since September 2012 the VTH has activated a 24 hours Hospitalization, intensive care and emergency service which is managed by all the faculty clinicians and by three additional practitioners hired on purpose for this service. The emergency service is active 24 hours /day 7 days /week.
At the time of writing the SER there is an on-going negotiation with the central structures of the University for the activation of an internship for postgraduate students. The main difficulty at this time is the recognition by the central University organisms of the professional figure of the Intern, which will guarantee insurance in terms of legal and professional issues.
Our goal is to care for our client's animals with expert knowledge, state-of-the-art equipment, while providing clinical training to veterinary students.

Comment on local conditions or circumstances that might influence the ratios in tables 7.5 and 7.6.

In the previous paragraph 7.1.2 the problems related to the difficulties run in the execution of necropsies of large animals has bee already discussed and, starting from 2011 when these problems were particularly felt, a series of strategies has been realised to overcome the difficulty.
The low R18 ratio value calculated in table 7.6, in fact, is strongly influenced by the low number of necropsies performed in 2011.
The outcome achieved in the last two years rewards the efforts of the Pathology Unit teaching staff both in 2012 (n= 71) and in 2013 (n= 69,) when it was possible to operate on a large variety of

species, so that the number of necropsies performed on food producing animals, including the equines, has gained the range requested by ECOVE.
In fact, the R18 denominators calculated both on the mean graduated number in the last five years (Chapter 9 - Student Admission and Enrolment, Table 9.5) or on the number of graduated in 2012 (n= 63) or 2013 (n = 74), agree to the requested value (see table 7.7).

Table 7.7 - Necropsies on food producing animals and equines performed in 2012-2013

Ratios				Calculated Denominator	Established Denominator by ECOVE
R 18	mean graduated number in the last five years / Mean n° necropsies food-producing animals + equine performed in 2012-2013	=	67.2 / 70	1 / 1.041	↑ 0.998
R 18	graduated number in 2012 / n° necropsies food-producing animals + equine performed in 2012	=	63 / 71	1 / 1.126	↑ 0.998
R 18	graduated number in 2013 / n° necropsies food-producing animals + equine performed in 2013	=	74 / 69	1 / 0.932	↑ 0.998

As to the ratios R12 (food producing animals for clinical training), it is evident that its denominator is under the selected limits established by ECOVE. However, when calculated on combining Veterinary Teaching Hospital cases and outside patients (n = 456.63), the denominator R(11+12) = 1/6.79) fully fits with the selected cut-off (higher than 5.5)

7.3 SUGGESTIONS

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

See previous paragraph

8 CHAPTER

Library and Learning Resources

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Chapter 8. LIBRARY AND LEARNING RESOURCES

8.1 - FACTUAL INFORMATION

The Veterinary Medicine Library works within the University Library System (*Sistema Bibliotecario di Ateneo* - SBA) which coordinates the acquisition, conservation and use of the whole bibliographic resources and all documentation of the University and handles the diffusion of the bibliographic information using advanced methods. The University Library System, in turn, is linked to the National Library System (*Sistema Bibliotecario Nazionale* - SBN).
Within the University Library System, the Veterinary Medicine Library represents a unique centre of bibliographic resources in the field of Veterinary Medicine that is available to all professors, researchers and students at the Vet-Campus, as well as to all the scientific community.

8.1.1 - LIBRARY

Give a general description of the library/libraries of the Faculty/university that are available to students.

The Veterinary Medicine Library is one of the 11 Central Libraries of the University of Bari "Aldo Moro".
All the bibliographic resources kept at the different libraries of the University of Bari are available to students with rules established by the different Library Regulations.
The centralised Veterinary Medicine Library is placed at the ground floor of the Southern wing of the Building 01 (see Chapter 6 - Facilities and Equipments) of the Vet-Campus along with the administrative offices, the room for storing books, a large reading room and a multimedia work station for students.
In theses premises the main body of bibliographic resources is stored although a small number of specialized books and journals are stored in some Department sections.

Indicate how the library/libraries are managed (e.g. library committee).

All the library activities are managed by a Director who is appointed by the Central Administration of the University of Bari, and by a Library Committee.
The Director (dr. Caterina Zotti) supervises all library and staff activities, coordinates the public services and draft the budget and balance.
The Library Committee is composed by 8 members, i.e. the Director of the Library, the Director of the Department of the Veterinary Medicine, four teachers experts in the different disciplinary areas of Veterinary Medicine and two representatives of students.
Every year the committee is convened to individuate and solve eventual problems encountered during the activities and to plan the priority actions for the following year taking into account the requests of teachers and students.
The Committee is autonomous in planning the use of founding but it is strictly conditioned by the economic resources supplied by the University.

The Library, in fact receives basic annual financial support from the University of Bari. As shown in table 8.1 in the last years, due to the financial restrictions that have penalised all the activities In Italian public University, the budget allocated for the purchases and services of the Central Veterinary Medicine Library have strongly conditioned the cultural and scientific choices of the Library Committee. In order to compensate partially the decreased founding resources from the Central administration, the ex-Faculty in the last years has supported the Library by assigning part of its own budget to the Library.

Table 8.1 - Veterinary Medicine Central Library financial resources in the last three years.

	2011 €	2012 €	2013 €
From the University	7,404	6,940	11,674
Form the Department (ex-Faculty)	6,000	7,500	-
Total	13,404	14,440	11,674

8.1.2 - MAIN LIBRARY

As mentioned before, the Veterinary Medicine Centralised Library is located at the ground floor of the Southern wing of the Building 01 of the Vet-Campus (see Chapter 6 - Facilities and Equipments) and it is composed of:

- one reading room of 139 sq m with 70 seats;
- a so called "*Isola Didattica*", a multimedia work station provided with 21 computer available for students
- four administrative offices (total surface area of 54 sq m)
- a 92 sq m room for storing books

The Library has a website regularly updated available to all users at the website of the Department of Veterinary Medicine (www.uniba.it/ricerca/dipartimenti/dipmedveterinaria). The web site supplies all information about the library (opening hours, library regulation, etc.) and all the information useful to access to the services (e-journals, databank, book loan, document delivery, possibility to ask a question, and so on).
The library opening hours are given in table 8.2

Table 8.2 - Library opening hours

	Opening hours	
	Days a week	hours
Lecture room	Monday- Friday	8:30 – 19:00
Other services	Monday and Wednesday Tuesday and Thursday Friday	8:30 – 18:00 8:30 – 17:30 8:30 – 14:30

The library is closed in the weekends, during the central weeks of August and during the national and religious holidays listed in the academic calendar.

Table 8.3 offers an overview of the information requested by the SOPs Manual that are more detailed afterwards

Table 8.3 - Relevant data on the Main Library

Specific to the veterinary training establishment	Yes
Common to two or more establishments	No
Full time equivalents of part time employees	1.05 (2011), 1.05 (2012), 1.05(2013)
No. of full time employees	3
No. of journals received as hard copy per year *	11
No of full access electronic journals	5600
No of textbooks	1685 (plus about 2000 dissertations**)
Other (cd-rom, dvd, geographical maps etc)	485
Availabilities for on line literature search	Yes
No. of student reading places	70

* the subscription offers both the hard copy and full access on line
** lodged at the Didactic Secretariat.

Library staff: three persons holding a permanent position, including the Director, work at the Library full time (36 hours per week). An additional employee carries out part of its duties at the central Library of Agronomy and therefore has been regarded as part-time employee. The Library also benefits of 3 students hired each years as part-time workers (150 hours per student) to support the staff in assistance to users during the library opening hours (see Chapter 10 - Teaching and Support Staff). Moreover the Library service is supported by civil service volunteers.

Bibliographic resources: the resources of the library include a total of 1658 books. Due to the financial restriction and to the free access to the digital library (see underneath), in the last years the Library Committee has quitted a number of journal subscriptions. Therefore currently only 11 journals are received in hard copy.
All books and journals are catalogued using the rules lied down by the National Library System (*Sistema Bibliotecario Nazionale* - SBN) and are indexed in the electronic catalogue available at the web-site of the Italian Libraries included in the University of Bari. SBN is a part of a system of cataloguing books, the so-called *Catalogo Unico di Ateneo* (On line public access, OPAC), available at the link Risorse SI.B.A.(www.uniba.it/bibliotechecentri/sistema-bibliotecario).
The University of Bari offers a service of access (digital library) to several journals and allow users to download full-text articles of several editors. The connection is reserved to students (including PhD students), teachers and technical/administrative staff of the University of Bari, and to all the persons having research or teaching contracts or agreements with the University of Bari, including visiting researches and professors, and occasional users.
The Emeroteca virtuale (virtual library) is linked to CASPUR system, which is an open source, available for the users from all workstations connected directly to the University network (http://periodici.caspur.it/guida.php).
Emeroteca virtuale is not updated since July 2013 but will be flanked by a more powerful platform, NERA (New Electronic Sources Active), which is already working. NERA includes 8.067 journals and 10.119.425 scientific articles. All the articles can be retrieved and downloaded by

means of a simple search and/or advanced search. Finally, there is another platform in progress, PORTALE SINBIP.
All those resources are available at the site: http://www.uniba.it/bibliotechecentri/sistema-bibliotecario.

Figure 8.1 - Screenshot from Sistema Bibliotecario di Ateneo (SIBA) http://www.uniba.it/bibliotechecentri/sistema-bibliotecario.

Other electronic resources: Moreover some multi-medial resources are available for students for self-learning (see "Other" in table 8.3). These are collections of CDs and DVDs of scientific interest available upon request at the reception of the Library, where a detailed list of these resources is available.

Technological services: in a separate area of the Library reading room, 21 PC locations with internet access are available for students and authorized users. A central terminal server cluster powers all client computers. All computers are linked to a laser printer.
The library is also a wireless environment and users can navigate with their personal laptop and can directly access to the informatics services offered.
The PCs and software are regularly updated on behalf of two full-time specialized technicians working at the Vet-Campus who are also responsible for maintenance of the hardware and software platforms used for educational and institutional purposes, chiefly the internet connections, the wireless networks and the mailing system.

8.1.2.1 - Library services

In order to have access to consultation of bibliographic material, visitors are required to submit a request together with an identity document.
All services are free, with exception of photocopies and re-prints of downloaded files. The photocopying service is regulated by the purchase of prepaid rechargeable cards and in accordance with the current legislation on the protection of copyright (Law no. 633 22/04 /1941 and subsequent amendments).
The Veterinary Medicine Central Library provides the following services at the front-office:

Reference
The Central Library provides a service aimed at introducing the user to the research tools and the services of the Library (quick reference).

Moreover, through its qualified personnel, the Central Library offers a service orientation (advanced reference) for promoting the search, the choice and use of bibliographic resources.
The advanced service reference refers to the following activities:

- literature searches on catalogues and directories
- literature searches on local and national OPAC (*Online Public Access Catalogue*)
- research and access to databases in the University network;(CASPUR; see before)
- consultation of e-journals in the University network
- internet searches on search engines and portals
- guide to insert bibliographic data in scientific papers and/or dissertations.

Localloan

The Central Library provides a service of local loan (LL) aimed at encouraging the widest circulation access to the documents.
The LL service is available for: teachers, researchers, graduate students, undergraduate students, research assistants, administrative staff of the University of Bari.

Interlibrary Loan

The Central Library provides, subject to reciprocity, an inter-library loan (ILL) service designed to promote the circulation of documents between the libraries belonging to the University Library System and/or Italian and foreign libraries, in order to match the users request to access documents that do not exist locally.
The ILL service is available for: professors, researchers , graduate students, undergraduate students, research assistants, administrative staff of the University of Bari.

Document delivery

The service for delivery of documents (DD) is addressed to both external libraries (lending) and to internal users (borrowing): the library provides, at the request of other libraries, copies of articles owned and, at the request of its members, the search and request of documents in other libraries.

The Library employs the software NILDE (Network Inter Library Document Exchange) for DD and interlibrary loan. This software was developed by the Library of the National Research Council with the aim to set a network of technologically advanced services of DD among libraries based on transmission through internet. It connects a large network of university libraries, research institutions, public and private agencies and allows the libraries to send, receive and deal with requests of DD with the advantage of having an immediate registration of all transactions.
The libraries subscribed to NILDE can get any documents for free.
In table 8.4 a quantitative overview of the services offered by the Veterinary Medicine Library of the University of Bari is shown. The data are related to 2012 as the final balance for 2013 is not yet available.

Table 8.4 - Services offered by the Library in 2012

SERVICE		n
Local loan	daily loan	3031
	loan (more than one day)*	244
Interlibrary Loan	books received	11
	books sent	23
Document delivery	records received	602
	records sent	1571

* documents not consulted inside the library facilities.

8.1.2 - SUBSIDIARY LIBRARIES

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

There are no subsidiary libraries or decentralised Library of the Veterinary Medicine Central library. As already said before, a small number of specialized books and journals belonging to bibliographic resources of the Main Library or purchased by the Departments are stored at some Department sections.
The decentralised bibliographic material is stored in reading rooms open to users on demand. There are 7 reading rooms located at different department sections (see Chapter 5 - Facilities and Equipment) and equipped with reading places for users, where it is possible to consult these thematic bibliographic collections inherent specific areas of scientific interest of each section. Students, and users in general, can access to these documentation resources according to the rules therein laid down by the Regulations of each departmental section.

8.2 COMMENTS

Please comment on the adequacy of the books and accessible journals, of the opening hours and of the provision of reading spaces and support personnel

The Veterinary Medicine Library offers, on the whole, a complete and good service to all the authorised users.
The premises and equipments are adequate to fulfil the requirement of students, and users in general, also due the good organisation of the Library staff that efficiently manages an increasing number of visitors per year (Table 8.5) and offer a broad range of services (see Table 8.4).

Table 8.3 - Overview of the library visitors during the three last years

	Visitors (n)
2011	3523
2012	4355
2013	4510

In internal surveys performed by contacting and interviewing users, satisfaction was generally expressed for the opening hours, considering its location outside of the town of Bari. In fact students are never on the Campus during the week end and the five days /per week is considered a satisfactory service.
The Library stocks are specialised in Basic and Applied Veterinary Science, Food Production and Hygiene and the collection can be considered adequate. Several interviewed students, however, complain that a too small number of copies for each title is available for consultation.
The number of periodic publications, on the contrary has undergone a progressive decrease due to the financial restraints. However, free web access for the students and authorized users to database and e-journals largely compensates the scarcity of hard copy journals. Moreover, an efficient Document Delivery Service is accomplished for all requests for copies of scientific papers in 1-4 working days.
Internet access is easy and adequate because of the Wi-Fi connection.

Please comment on the Faculty's provision of IT -facilities and the approach to self-learning, and on the further developments in this area.

The library supply a numbers of IT-facilities to enable users to consult the electronic resources and for general internet and e-mail access. These resources offer good services but they should be improved. At the moment, however, the economy of the Library and Department cannot schedule these expenses.
An effort has to be done to increase the collection of DVDs, digitalised slides, home videos, and to make this collection available in the Library servers for the student self-learning.

8.3 SUGGESTIONS

There is a strong commitment of the Veterinary Medicine staff and teaching board to promote and reinforce the activities of the library, as this represent a core premise for the students, where they can get access to scientific information and explore the updated literature on scientific topics.
However, if the budget shortage will persist in the next years, a general revision of the subscriptions for hard-copy journals will be mandatory, since a significant number of downloadable papers is now available in the e-library.
The use of the available funds for purchasing textbooks and other didactic tools appears as a good strategy to implement the pedagogical resources of the Veterinary Medicine Degree Course and fulfil the students needs.

9 CHAPTER

Admission and Enrolment

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CHAPTER 9 - STUDENT ADMISSION AND ENROLMENT

9.1 - UNDERGRADUATED COURSES

9.1.1 - UNDERGRADUATE STUDENT NUMBERS

Table 9.1 asks for numbers of undergraduate students in the veterinary training institution. This means students enrolled for undergraduate training and paying the corresponding tuition fees (if applicable), except for those students who do not participate in the teaching offered.
Some veterinary curricula require students to successfully complete all courses presented in an academic year before they can start the subjects in the following year.
In other establishments students have to complete all the subjects in the curriculum before graduating, but can do so in a more flexible way. In the latter instance, it may be difficult – perhaps impossible – to place some of the students in a specific year of the program.
If this is so, table 9.1 may: Be omitted, or be an approximate figure, or be calculated by reference to the course of year that corresponds to the largest number of subjects taken.
In any case, please indicate the minimum no of years (MNY) allowed to successfully complete the curriculum.

The composition of Veterinary Medical student regularly enrolled in the Veterinary Medicine Degree of the University of Bari in the year prior to the EAEVE commission visit is shown in table 9.1

Table 9.1 - Undergraduate student composition in the year prior to visitation (2013).

Total number of undergraduate students	**773**
Total number of male students	266
Total number of female students	507
Foreign students	
- from EU countries	6
- from non-EU countries	1

The minimum number of years (MNY) to successfully pass the curriculum is **5 years**. Conversely, there is no upper temporal limit for the students to get their degree in Veterinary Medicine. In theory, students are allowed to repeat exams as many times as necessary, until they are successful to pass the evaluation. The only requirement to maintain the status of "student" is paying the annual fees, even if the student does not pass any exams during this period. Students are also allowed to pause and subsequently resume their studies even after several years.

In Italy, university students are classified as **"in course"** (regular students who are able to regularly proceed in their career and graduate in 5 years) and **"off-course"** (students who are not able to pass yearly the exams and do not graduate in 5 years). In the former case, students must repeat one or more years and, during their career, they will experience the status of **"student repeating the same year"** (i.e. a student that register more than one time for the same year). These students will have the possibility, if successful to pass all the required annual exams, to re-gain the status of student "in course" and they will appear as regularly enrolled to the next academic year. However after the 5th year, if they are not able to finish the exams, the students are regarded to as "off -

course". A student can remain in the "off course" status for an indefinite period, without taking exams, and can resume his career whenever he likes. In this case the Didactic Board evaluates the supplemental studies/courses required to adequate the career to the changed programs. The "off course" and "repeating" students are considered "underserving" and they can not take advantage of government subsidies for "in course" students to reduce taxes/fees, (see also Chapter 3 - Finances).

Such diversified students careers make it difficult to classify clearly, and then to count the number of "in course" and "off-course" students, and preclude a realistic overview of the actual impact of the attending students on the training activities of the course. Depending on their different status, indeed, the attendance of students to the training activities may vary markedly: "on course" students attend to all educational activities offered by the academic staff whereas "off-course" students go the university only to take exams or, occasionally, to ask for tutorial assistance. Students "repeating the same year" can be therefore considered as part-time students.

For this reason, the undergraduate students number expressed in table 9.1 shows the total number of students enrolled at the Veterinary Medicine course in 2013 but do not represents the actual number of the students attending the course. According to the previous considerations, the undergraduate students composition in the year prior to visitation (2013) has been sub-divided in "in course" and "off-course" students belonging to the old curriculum of the Veterinary Medicine Degree (expiring course - table 9.1a) and "in course" or "repeating the same year" students belonging to the new curriculum of the Veterinary Medicine Degree, as the fist five-year period of the new regulations course is running out (table 9.1b) (see Chap. 4 - Curriculum). This way to present the data allows a more realistic view of the real number of the students involved in the training activities

Table 9.1a - New regulation course: undergraduate "in course" or "repeating the same year" student composition in the year prior to visit (2013).

Total number of undergraduate students	**331**
- In course	258
- Repeater	73
Total number of male students	**114**
- In course	91
- Repeater	23
Total number of female students	**217**
- In course	166
- Repeater	51
Foreign students	**2**
- from EU countries	1
- from non-EU countries	1

Table 9.1b - Old regulation course: undergraduate "in course" and "off-course" student composition in the year prior to visitation (2013).

Total number of undergraduate students	**442**
- In course	254
- off course	188
Total number of male students	**152**
- In course	84
- off course	68
Total number of female students	**290**
- In course	170
- off course	120
Foreign students	5
- from EU countries	5
- from non-EU countries	-

At the visit time, the old regulations course will be expired and all not yet graduated students belonging to this curriculum will be "off-course".

To complete the description of the students population gravitating on the university facilities and connected with the teaching staff involved in the veterinary training, in table 9.1d the total number of undergraduate students enrolled in all the degree courses operating at the Vet-Campus of Valenzano is quoted.

Table 9.1d - Total number of the undergraduate students at the establishment of the Veterinary medicine degree course in the year prior to visitation (2013).

	Veterinary medicine	**Animal Science and Foodstuff Productions**	**Hygiene and Safety of Foodstuffs of Animal Origin**	**Total**
Total number of undergraduate students	585 *	301	29	915

* "in course" and "repeater" students

We must underline, however, that student attendance to the degree courses, with exception of Veterinary Medicine, is not compulsory and several of students, mainly working students, come to the university only to take exams or to take part to practical activities. Therefore the real number of undergraduates gravitating on the teaching staff and on the premises and facilities at the Vet-Campus is far below the official total number of enrolled students. For all practical purposes, in fact, it can be estimate at about 150 students for the three years course on Animal Science and Foodstuff Production and at about 20 students for the two year course on Hygiene and Safety of Animal Foodstuff. Therefore, the real total number of the undergraduate students present at the establishment of the Veterinary medicine degree course can be set at 755.

9.1.2 - STUDENT AMMISSION

State the minimum admission requirements.

In order to be admitted to any Degree course in Veterinary Medicine in Italy, students must have completed all the compulsory educational courses established by the Italian Laws (primary school, usually from 6 to 10 years of age, and secondary school from 11 to 13 years of age) and must be in possession of a 5-year High School Diploma.
Italian High schools (from 14 to 18 years of age) are differently vocational oriented ranging from scientific to humanistic, linguistic, technical and artistic disciplines. No restriction is laid down on the kind of education attended by the student during its non-compulsory secondary study training and, independently from the curriculum, any student that passes the final high school exam (formerly called "*esame di maturità*") can have access to the University studies. With regard to the Veterinary Medicine course, all students with a 5-year High School Diploma can be admitted to the national admission test.
A similar qualification is required for Italian students who acquired a 5-year High School Diploma abroad or for foreign students (EU and non-EU). The Diploma in posses of these students is evaluated by the competent Consular and Academic Authorities according to multilateral and bilateral European and international agreements.
The foreign students, before taking the admission test, must also demonstrate proficiency of the Italian language through an oral exam with a commission designated by the University of Bari.

Indicate whether there is a limit to the number of students admitted each year.

The first-year students enrolment to the Italian course of Veterinary medicine is regulated by a *numerus clausus* system (restricted entry) as, since 1990, the competent Ministry introduced the limited admission for medical degrees (human medicine, dentistry and veterinary medicine).
The number of places offered by each Italian Veterinary Medicine course is defined by the Departments involved in the teaching activities according to specific criteria (i.e. funding allocated by the MIUR, available structures, facilities and staff).
The selected number is than proposed to the Academic Senate which, after approval, communicates it to the competent Ministry. The Ministry evaluates, modifies and/or approves the proposals submitted by the different Italian Veterinary Courses on the basis of:

- the total number of places proposed by the 13 Italian University Veterinary Schools;
- the prevailing prospects for the graduated professional employment in the different Italian regions, as established by a working group composed by representatives of: the competent Ministry, the Ministry of Public Health, the Italian professional vet trade unions, the National Veterinary Medical Association (*Federazione Nazionale Ordini Veterinari Italiani* - FNOVI), the Department Directors of the Italian Veterinary Schools and the Regional government authorities;
- the annually updated data enters into a centralized database that qualify the so-called "Educational potential" of the course, i.e. the teaching potential and the teaching quality offered by the single Veterinary course to the students. They include the number and capacity of lecture halls available for lesson, the teaching, scientific and support facilities for practical activities and training, the assets of teaching and technical staff.

Approval by the EAEVE is an important factor for assessment of the "educational potential" and it represents one of strengths within the overall evaluation.
Moreover there are a defined number of places reserved for non-EU citizens, determined yearly by the Departments.
Due to the pressures by the Italian professional boards, the total number of students admitted in the Veterinary Medicine Degree course offered in the Country has been progressively decreased over the years (from 1456 in 2004 to 825 in 2014) and most Italian Veterinary courses underwent a marked decrease in the number of first year enrolments.
Despite the national negative trend of the matriculations, till 2013 the Ministry has always approved the number of students proposed by the Veterinary Medicine course of the University of Bari and EAEVE approval to the Course has played an important role in the Ministry decision to accept the proposed admission number.
Since 2008, the maximum number of admission at the Veterinary Medicine course of the University of Bari was set at :

- 100 students including Italian students and non-Italian students legally residing in Italy and coming from the EU member states and from Norway, Island, Liechtenstein, Switzerland and the Republic of San Marino;
- 5 students from non-EU countries (established by the competent Ministry)
- 2 students from China (based on bilateral agreements between the Italian and Chinese governments).

In the past years the maximum number of 5 non-EU students has never been reached and Chinese students have never applied for the 2 extra places specifically reserved.
For the 2014 the Departments involved in the Veterinary Medicine course, considering the available resources in term of funding, facilities and teachers, proposed a reduction of the maximum number of students: The proposal was as follows:

- 95 students from EU countries
- 5 students from non-EU countries included 2 students from China

However, due to the drastic decrease in the number of students that may be matriculated at a nation-wide level, the Ministry decided a further 15% reduction (from 95 to 80) in the number of students for the academic year 2014.

Describe how the number of government-funded student places is determined.

No government-funded student places are envisaged.
The University of Bari offers incentives and facilitations for deserving students and for students requiring economic support (see Chap. 3 - Finances and Chapter 5 - Teaching: quality and evaluation).

Outline any selection process (or criteria) used in addition to the minimum admission requirements

As mentioned before, students (included non-EU and Chinese students) are admitted to the Degree course in Veterinary Medicine through a National admission test and all the students whit a High School Diploma can apply.

Students are free to apply and take the test for admission to all the courses they are interested in and they can choose where they prefer to be enrolled in, on the basis of the admission results.
The admission procedures and tests are regulated by the competent Ministry at the national level and are the same for all Italian Veterinary Medicine courses. The admission tests take place once a year in the same day and at the same hour, in examination centres located in the different Universities of the Country. Therefore the candidates can take only one test per year for the admission the Veterinary Course.
In the last admission test, performed on 24 September 2013 (Ministerial Decree 24th of April 2013 n. 334) the exam consisted of 60 multiple-choice questions (MCQs), with one correct answer and 4 distracters, covering the following subject:

- Logic and general knowledge (30 questions - 25 + 5)
- Biology (12 questions)
- Chemistry (12 questions)
- Mathematics and physics (6 questions)

The students have 90 minutes to take the test. Evaluation and grading of the tests is made by CINECA (Italian network of universities and research institutions for computing resources) under the guidelines of Ministry. CINECA also prepares a reserved list for non-EU and Chinese applicants. The scoring system for each question of the test is as follows: 1.5 point (exact answer), minus 0.4 points (wrong answer) and 0 point (no answer). Therefore the test score ranges between 90 (all exact answers) and -24 (all wrong answers). A score higher than 20 is required to pass the test. . The total score obtained as described above is used to draw up a ranking of the applicants. The total score obtained as described above is used to draw up a ranking of the applicants. Non-admitted candidates can repeat the admission test the following year.

Till the last academic year, the scores and student rankings were posted by each university where the test was done, within 2-3 weeks. The candidates could matriculate in the University where they had taken the admission test. In this way, the student, when choosing the university where to take the admission exam, was also able to pre-select the Veterinary Medicine Degree course. In fact, as for the Veterinary Medicine course of the University of Bari, the first 100 students in the ranking list were admitted to the Veterinary Medicine course. However, as expected, a certain percentage of admitted students did not finalise the matriculation. Those students likely were also admitted to other courses (e.g. Medicine or Dentistry) which were preferred. Accordingly, some of the best applicants were missed, and their withdrawal from the admission list allowed other applicants, not ranked initially in the top 100 positions, to be admitted to the course. As a consequence of the list scrolling down, the average proficiency level of the enrolled students tend to decrease.
Starting from the current academic year, a national ranking list has been drawn up. This rank includes the applicants taking the test in all the Italian universities. When taking the admission test, each candidate has to indicate a list of preferences for the Italian Veterinary Medicine courses, alternative to the course of the University where they are taking the test, that is regarded as the first choice. In this way, as the national scroll down, the admitted candidates are assigned to the different Italian universities based on their preferences and their ranking, and the number of positions available for each course, following a meritocratic criterion.

Describe whether students applying for and/or starting veterinary training have an equal or very variable knowledge base in scientific disciplines from their previous studies.

The students admitted to the Veterinary Medicine course markedly differ in their proficiency in scientific disciplines. As previously reported, regardless of the secondary school attended, all the students with a High School Diploma may apply to the admission test for Veterinary Medicine.
The aim of the admission exam should be to select students with proper skills in scientific disciplines and attitude for the study, in order to set uniform and acceptable standard levels of knowledge of the first-year students.
Therefore even students with very poor scientific background (e.g. those coming from humanistic or artistic or musical schools) may pass the admission test. This is possible because the multiple choice questions of logic and general knowledge represent the 50% of the 60 questions of the admission test. The poor selective power of the accession test, with regards to the scientific knowledge, is accounted for by the fact that failing to answer all questions inherent scientific subjects is not detrimental for admission.

Describe any circumstances under which extra students may be admitted to the undergraduate veterinary course.

There are no conditions under which extra students may be admitted to the **first year** of Veterinary Medicine training out of the established *numerus clausus*.
After the first year, extra students may be admitted to the undergraduate Veterinary Medicine course provided that:

- one of the students regularly enrolled officially drop the studies;
- the extra student transfers from other Italian Veterinary Schools.

If a transferring student is accepted, previous academic achievements (i.e the exams taken elsewhere) are evaluated by the Teaching Affairs Committee that:

- establishes the equivalence between the programs previously carried out by the applicant and the programs included in training curriculum of the Veterinary Medicine Degree of the University of Bari,
- assigns the corresponding credits,
- admits the student to the adequate year of course.

The only exception for free admission of extra students to the Veterinary Medicine course is foreign students visiting the school in the framework of international exchange programs (Erasmus program). These students are temporary admitted to specific teaching courses as negotiated by the person in charge of Erasmus project relations (prof. Grazia Greco) and the University of origin.
Currently exchange programs are ongoing with the Universities of Leipzig (German), Murcia, Extremadura, Cordoba, Girona and Las Palmas De Gran Canaria (Spain), Cluj-Napoca and Timisoara (Romania) and Liegé (Belgium).
Table 9a describe the mobility of Erasmus students at the Veterinary Medicine Course of Bari during the 5 past years.

Table 9a - Incoming and outcoming number of Erasmus students at the Veterinary medicine Course of Bari during the 5 past years.

Year	In-coming (n)	Out-coming (n)
2013	12	6
2012	9	3
2011	2	5
2010	4	1
2009	0	5

Outline any changes foreseen in the number of students admitted annually. If applicable, describe how the Faculty plans to adjust to these changes.

The number of places offered by the Veterinary Medicine course is estimated yearly on the basis of specific criteria (see previous paragraph) and approved by the competent Ministry.
For the present academic year, despite the related loss in allocated founding by the University (see Chap. 3 - Finances), and in agreement with the majority of Italian Veterinary Medicine courses, the Department established to decrease the *numerus clausus* for the Veterinary Medicine course of the University of Bari. The decision was made to implement the potential of the academic staff and assure the best training to all students.
According to these guidelines, the Department rules out the possibility to admit more students and should consider to further decrease the number of students in the future.

Table 9.2 asks for the numbers of undergraduate students admitted to the Faculty over the last five years. Apart from the 'standard' intake, the Faculty may also be taking in students as transfers from other courses, privately funded students, etc.. Please indicate any supplementary intake of this kind in the last column of the table.

A summary of the number of students applying for admission and admitted after the national admission test during the past five years is reported on table 9.2.

Table 9.2 – National intake of veterinary students in the past five years

YEAR	Number of students applying for admission	Number of students taking the exam	Number admitted	
			"STANDARD" Intake	OTHER ENTRY mode*
2014	668	605	80	n.a.
2013	741	691	100	12
2012	604	551	100	9
2011	580	539	100	2
2010	435	400	100+1(non UE)	4
AVERAGE	**605.6**	**557.2**	**96.2**	**6.75**

N.A. = not applicable; * Erasmus students (6-9 month period)

As previously mentioned no supplementary intakes are allowed, due to the restricted entry rules, with exception of for temporary admission of Erasmus students.
As shown in table 9.2a during the past years, the number of candidates for admission has undergone a progressive increase whereas the number of available place decreased thus enhancing the possibility to increase the selection pressure that might be produced by appropriated selection procedures for student admission (see previous paragraph and Comment farther on).

Table 9.2a – Intake of veterinary EU students at the Veterinary medicine training of the University of Bari over the past years. SP = number of students present for admission; SA = number of places available; SP = selection pressure (percentage of student enrolled as to the total SP)

YEAR	SP	SA	Selection pressure
2006	236	135	57%
2007	275	135	49%
2008	274	135	49%
2009	330	100	30%
2010	400	100	25%
2011	539	100	18%
2012	551	100	18%
2013	691	100	14%
2014	605	80	13%

9.1.3- STUDENT FLOW

Table 9.3. establishes to what extend students make progress in their studies. To this end, we look at students who were admitted initially and which year they have reached after the MNY (minimum number of years) has elapsed.

Due to the possibility by the students to repeat one or more year and to re-appear as "in course" on "off-course" (see paragraph above), the precise assessment of the student's career is not practicable as no qualified analytical methods are available to clearly sub-divide the number of student in the different positions.

Table 9.3 illustrate the official flow of the veterinary students enrolled in the year 2010 as requested by the Manual of SOPs. In this case, the students under evaluation represent the first matriculated students in the new Veterinary Medicine course that started in 2010 (see Chap. 4 - Curriculum).

Table 9.3 - Student flow and total number of undergraduate veterinary students (new curriculum of the Veterinary medicine course)

NUMBER OF STUDENTS PRESENT THE ADMISSION YEAR 2010			NUMBER OF ADDITIONALLY ADMITTED STUDENTS*
2010	**1st year**	100	4
2011	**2nd year**	87	2
2012	**3rd year**	75	9
2013	**4th year**	73	12
2014	**5th year**	n.a.	n.a.
>2014	**>5th year**	n.a.	n.a
Number of undergraduate veterinary students (2013)		**331**	**12**

n.a. = not applicable (see text for explanation); * Erasmus students

At the visit time, the five-year period of the veterinary training is running out and, obviously, no students are present after the minimum number of training years (5 years) has elapsed. Moreover under the abovementioned conditions, the table is of limited value to describe the student flow as it shows the total number of "in course", "repeaters" an reappearing "in course" students, as better pointed out in the Table 9.3a

Table 9.3a - Student flow and total number of undergraduate veterinary students (new curriculum of the veterinary medicine course)

		STUDENTS PRESENT AFTER ADMITTED YEAR 1				
		TOTAL	In course	Repeating	Reappearing in course	Drop-out
1st yeas	**2010**	100	100	0	0	0
2nd year	**2011**	87	75	12	0	13
3rd year	**2012**	75	37	38	0	12
4th year	**2013**	73	24	29	20	2
5th year	**2014**	n.a.	n.a.	n.a.	n.a.	n.a.
>5th year	**>2014**	n.a.	n.a.	n.a.	n.a.	n.a.

n.a. = not applicable (see text for explanation)

The same analysis is illustrated in table 9.3b but for students enrolled in the year 2007, i.e. the matriculated students in the old curriculum of Veterinary Medicine course expired in the academic year 2013 (see Chap. 4 - Curriculum). In this case, the student flow allows to catch the number of students that cannot graduate in the minimum number of training years.

Table 9.3b - Student flow and total number of undergraduate veterinary students (old veterinary medicine course)

		STUDENTS PRESENT AFTER ADMITTED YEAR 1					
		TOTAL	In course	Repeating	Reappearing in course	Drop-out	Graduated
1st yeas	2007	135	135	0	0	-	
2nd year	2008	116	115	1	0	19	
3rd year	2009	105	101	4	0	11	
4th year	2010	103	53	48	2	2	
5th year	2011	98	17	53	28	5	**13**
>5th year	2012	82	14	34	34	3	**11**
	2013	65	35	30	0	6	**17**

Table 9.3c summarizes in parallel the course of the student careers, old and new regulation, in an attempt to show the progress made by students in their studies.

Table 9.3c - Status in December 2013 of students who started their studies in 2007 (old curriculum of veterinary medicine course) or 2010 (new curriculum of veterinary medicine course)

OLD CURRICULUM				NEW CURRICULUM			
	Status	Students (n)	%		Status	Students (n)	%
2007	135 enrolled			2010	100 enrolled		
2011 (V year)	**Drop-out**	37	27	2013 (IV year)	**Drop-out**	27	27
	Enrolled 1st year	0	-		*Enrolled 1st year*	4	4
	1st year repeating	0	-		*1st year repeating*	4	4
	Enrolled 2nd year	0	-		*Enrolled 2nd year*	16	16
	2nd year repeating	0	-		*2nd year repeating*	11	11
	Enrolled 3rd year	0	-		*Enrolled 3rd year*	0	-
	3rd year repeating	19	14		*3rd year repeating*	14	14
	Enrolled 4th year	27	20		*Enrolled 4th year*	24	24
	4th year repeating	32	24		*4th year repeating*	**n.a.**	**-**
	Enrolled 5th year	20	15		*Enrolled 5th year*	**n.a.**	**-**
TOTAL		135	100	TOTAL		100	100
2011	98 enrolled						
2013 (II year after the end of course)	**Drop-out**	9	9				
	Enrolled 1st year	0	-				
	1st year repeating	0	-				
	Enrolled 2nd year	0	-				
	2nd year repeating	0	-				
	Enrolled 3rd year	0	-				
	3rd year repeating	0	-				
	Enrolled 4th year	0					
	4th year repeating	0					
	Enrolled 5th year	29	30				
	5th year repeating	19	19				
	Graduated	**41**	**42**				
TOTAL		98	100				
2013	48 enrolled						
Graduated over 89 students (135 less drop-out)		41	46				

Table 9.4 - Number of students graduating annually over the past 5 years

YEAR	NUMBER GRADUATING
2013	74
2012	63
2011	85
2010	54
2009	60
AVERAGE	67.2

Table 9.5 - Average duration of studies (distribution of students in years)

N° years to graduate	n° of graduated over five year (2009-2013)	%	n° of graduated in 2013	%
5	39	11.6	6	8.2
6	46	13.7	14	19.0
7	48	14.3	14	19.0
8	50	14.9	9	12.1
9	34	10.1	7	9.4
10	24	7.1	7	9.4
>10	95	28.3	17	22.9
TOTAL	336*	100	74	100

* the number correspond to all students of the old curriculum graduated over the past 5 years (2009-2013).

The numbers quoted in the table show that the average duration of the student career is very long (about 9 years). These values, however, are strongly affected by the number of students (28%) that require twice as long or more to graduate than in-course students. Although such prolonged delay can be accounted for by different reasons, most of the students of this group are working students that graduate for personal satisfaction or students with limited versatility for veterinary studies but that continue their studies for personal culture.
By excluding this non-representative group of students, for the remaining highly motivated students (72%) the average duration of the course is about 7 years.

Describe the requirements (in terms of completing subjects and examinations) for progression to a subsequent year of the course

As attendance of lectures and practical courses is mandatory during the 5 years, the first requirement for the study progression is the achievement by the student of the attendance certificate for the teaching activities of the reference year.
Moreover, in order to be admitted to the following year, students have to pass a *mimimum* number of exams that correspond to a minimum number of acquired credits as indicated in Table 9.6.
Indeed, as previously reported in Chapter 4 (Curriculum), in order to assure a well organised progression in the studies and in order to help low-performing students in their career

management, the new curriculum of the Veterinary Medicine course sets stricter requirements for progression to the subsequent years of the course. The requirements include an established set of obligatory exams to be passed and prerequisites that must be respected (see Chapter 4 - Curriculum, Table 4e)
The only restriction to the study progression laid dawn by the old course regulation was the admission to the 5th year, that required completion of 21 exams.
The only restriction to the study progression laid dawn by the old course regulation was the admission to the 5th year, that required completion of 21 exams.

Table 9.6 - Number of Credits/Exams required to pass the following year.

ENROLLING TO YEAR	N° OF CREDITS REQUIRED	OBLIGATORY EXAMS to be passed	CUMULATIVE N° OF CREDITS As a consequence of propaedeutical progression*	% CREDITS REQUIRED FOR ENROLLING TO THE NEXT YEAR (on total 4 years 200 CFU)
II	35	-	35	17.5
III	20	-Physiology 2 -Microbiology and Immunology -General Pathology	61	30.5
IV	24	all the first year exams	102	51
V	14	all the 2nd year exams plus the English test	147	73.5

* see Chapter 4 - curriculum, Table 43

Failure to fulfil the two above-mentioned requirements implies that the student enrols as "repeating student". The student is admitted to the same year and can re-attend all the courses before taking the exams. However, even if fulfilling the requirements for admission to the subsequent year, some students could voluntary decide to repeat the year in order to complete all the studies. Repeaters are rare in the first year, but their number increases progressively from 2nd to the 5th (see also table 9.3c).

Describe the academic circumstances under which the Faculty would oblige students to leave the course

Under a general rule of the Italian education system, there are no circumstances under which a student can be obliged to drop the course. This applies to all public Italian Universities (see previous paragraph).

9.2 - COMMENTS

Comment on standard of the students starting the course.

As mentioned above the standard of the students starting the course is very heterogeneous since they come from secondary Schools with different *curricula* and different training methods.
This implies that students coming from humanistic courses are endowed by a good study method but have weak knowledge bases in scientific disciplines, as these subjects are not core subjects of their education. On the contrary, the students coming from technical schools have a more robust scientific cultural background but lack in study method. Such aspects, along with the impact with an organisation of life and study time which is substantially different from any previous experience, can affect the quality of learning at the beginning of the university studies and cause the student to fall in his career during the first year of training.
The original purpose of the national admission test was to select a sample of best students with a homogeneous scientific background and attitude for scientific skills. However the current mechanisms of selection do not meet fully these conditions.
This problem is experienced by all the Veterinary Medicine courses in Italy and, in order to decrease the differences in educational backgrounds of matriculated students, several Italian University offer basic courses scheduled before the beginning of the official courses (generally structured as 1-week intensive courses in September-October). In the opinion of the Teaching Affairs Committee of the Veterinary Medicine course of Bari, due to the limited time of students and the limited duration of the intensive courses, the value of these exam-preparation courses is debatable.
The two-months term organization of the scheduled courses for the Veterinary Medicine school of Bari (see Chapter 4 - Curriculum), on the contrary, appears a more suitable strategy to help the students to adjust their deficiencies in the basic scientific subjects. Indeed, the compacted teaching methodology forces the students to commit themselves to study from the very fist days of the course and gives them more responsibility. Moreover the daily close relationship between students and the teaching staff, allow the teachers to identify readily low-performing students, to fill the students educational gaps, to improve the quality of learning in basic science and, finally, to speed up the progress of the studies.
The high percentage of students succeeding in first year basic exams (see Figure 9.1a and Figure 9.1b) is an encouraging hint of the advantages of this educational approach.

Figure 9.1a – Percentage of basic science exams passed by the students enrolled at the II year of course (matriculated in 2010)

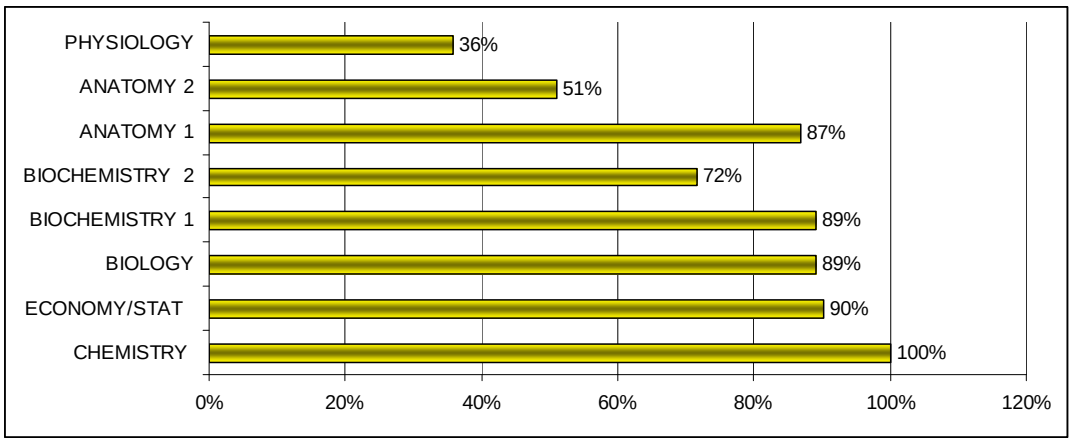
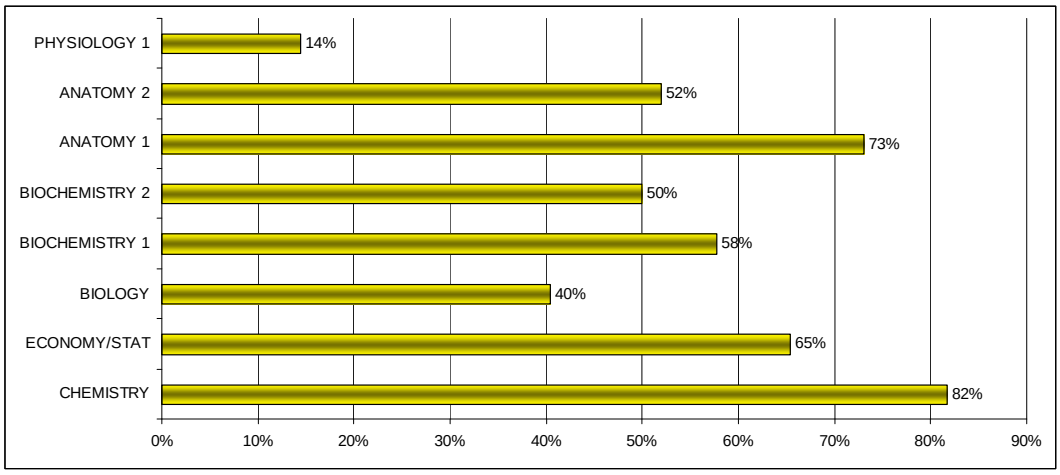


Figure 9.1b – Percentage of basic science exams passed by the students enrolled at the II year of course (matriculated in 2013)



It is evident that if students are able to pass successfully the exams of basic subjects (namely Physic, Statistic, Chemistry and Biology), they can quickly start preparing for veterinary-oriented exams (e.g. Anatomy and Physiology) which are closer to the personal motivation that have driven the choice towards veterinary studies. On the other hand, it is a common experience of the teachers involved in the late curricular years that adequate performance is difficult for students which must dedicate time and energy to compensate difficulties encountered in their early study career.

Comment on the ability of the Department to satisfactorily decide the number of student it can accept.

The Department, heard the opinion of consulting bodies and based on well established parameters (see previous paragraph) can fairly and satisfactorily define the more suitable number of students that can start the degree course.

On the basis of this parameters, the competent board of the Veterinary Medicine course of Bari has voluntarily reduced the *numerus clausus*, adapting the number of admissions to its own educational potential. Starting from the last EAEVE visit (2004), the number of students accepted to the first year has been curtailed of about 30%.
The last proposal (95 plus 5 non EU students) was in line with the Faculty structures, facilities, support staff and availability of animals required for practical and clinical works. Accordingly, the additional cut required by the Ministry has further strengthened the potential performances of the course.

Comment on the factors that determine the number of students admitted.

As previously stated, the Department annually proposes the number of limited admissions to the first year of the course and the competent Ministry provides the final decision by giving particular weight to the educational potential of the training course and to the real requests/needs of veterinary practitioners in labour market in the different Italian regions (see previous paragraph).
On the whole, the Didactic Board feels comfortable with the criteria set by the Ministry. However the progressive reduction of the total number of students admitted to the Veterinary Medicine course in Italy is strongly conditioned by the request of the professional word that is concerned about the risks of unemployment for veterinarians. An objective assessment of veterinary employment, however, should take in greater consideration other potential job offers for veterinarians, such as food processing industry, feedstuff industry, the National Health Services, the Experimental Zoo-Prophylactic Institutes, pharmaceutical industries, and so on.
Moreover it is necessary to underline that a substantial element conditioning the Ministry decision on the *numerus clausus* (the number of students) for a given course is the EAEVE approval. A note of the Ministry issued in 2012 (prot. 1268; 2 July 2012) has decreed that Veterinary courses lacking EAEVE approval, or under conditional approval, will not be authorized to admit new students, thus making the EAEVE approval an essential requisite for Italian Veterinary Medicine courses to start.

Comment on the adequacy of the facilities and teaching program to train the existing number of students.

The premises available at the Vet-Campus are adequate to the needs of the yearly incoming students**.**
Five lecture halls of fifteen, with a capacity of not less than 90 students, are available for theoretical training (see Chapter 6 - Facilities and Equipment). The study programme is scheduled so that the hours of practical activity and clinical training increase with the progression of the student's career and this leads to a reduction of the number of students/group. In particular, fifth year mainly consists of practical activity which is carried out in small groups of students (see Chapter 4 - Curriculum). Therefore there are no problems related to lecture hall capacity and equipment availability. In all the five lecture halls audiovisual and audio amplification systems are present.
It must be remembered that lecture halls available at the Vet-Campus are also used for two further Degree courses offered by the establishment (Animal Science and Foodstuff Productions and Hygiene and Safety of Foodstuffs of Animal Origin). However, attendance to this training is not

compulsory and several of students come to the university only to take exams or to take part to practical activities. Therefore no large lecture halls are needed for this courses and a careful planning of the teaching schedule allows to fully satisfy the exigencies of all teachings.
Practical teaching activities are generally carried out in group of students, thus they are almost always performed in smaller rooms, or in the Unit laboratories, or at the Veterinary Teaching Hospital.
Suitable dissection/necropsy rooms for practical works in Anatomy and Pathology are also available and properly equipped.
The library has 70 seats capacity and students also can take advantage of a number of reading rooms at the different Department Units.
Finally, apart from the facilities already present at Vet-Campus, 2 large educational laboratories and two new lecture halls with 70 seats will be available in 2015 according the project for restoration of the now out of use wing of the Building 07 (see Chapter 3 - Finances)
For further information on facilities at Vet Campus see Chapter 5 - Facilities and Equipment and Chapter 5 - Teaching: quality and evaluation.

Comment on the progress made by students in their studies, and the Faculty's ability to ensure that satisfactory progress is maintained.

Even if caution must be taken when interpreting the progression of students in their studies, because of the unpredictable fluctuations of the students status ("in-course", "off-course" or "repeaters"), currently 42% of students enrolled in the old regulation course are "off-course" and 22% of students enrolled in the new regulation course are "repeaters". The aforementioned situation implies that an undoubtedly elevate percentage of students, at a certain time of their career, have slowed down their studies.
Beside the already mentioned causes affecting a rational and efficient progress of the students studies, chiefly early in their study careers, i.e. the non homogeneous standard level of students at admittance (see previous comments) and failure of the admission test to select veterinary-oriented students (see paragraph 9.1.2.4), an additional two important reasons may be evoked.
A reason for the current situation of the undergraduated students relies in the regulations of the old study plan. In the old course, the students were free to organize their study progression. As a consequence of this, the main goal of a large number students was to attend the lesson courses in order to obtain the attendance certificate of all the teaching activities of the reference year, as this was pivotal to be enrolled in the the following year, regardless of the number of exams passed. This allows the students to hide delays in their career progression to the family, and, at the same time, gives the students the possibility to attend the veterinary-related subjects of the last years of the course, that are regarded as more interesting. It is a common experience that a large portion of students is poorly receptive to subjects other than medical care of the animals (with a particular preference for companion animals) and tends to consider the propaedeutic subjects as disappointing and as a waste of time.
In the old course, based on attendance of the lessons, a substantial number of students could attend the lessons on clinical subject without having taken the propaedeutic exams, such as physiology, microbiology, parasitology or pharmacology. These permissive rules, along with the

limited learning versatility of students, can be considered as one of the main causes of the suboptimal learning quality recorded in the past years.
Another important reason for the aforesaid deficiency of the students in their progression study can be accounted for by the lack of legal tools of the Teaching Affairs Committee to prevent students from enrolling as "repeaters" or "off-course" and in the relatively low costs of the tuition fees. Indeed, this may cause students to be less motivated because they know that eventual delays in their career progression do not cause relevant economical damages. Therefore, the non-regulated careers of students that have limited learning versatility or are working students who continue their studies, and eventually graduate, for personal satisfaction regardless of the time it takes to finish, may heavily affect and distort the average length of the study course.

On the basis of the aforementioned problems, it is evident that the Department will always have difficulties to ensure a satisfactory progress to all, or most admitted students, till the national regulations and procedures will be so compelling for the teaching boards and so permissive for the students.
The following actions are considered useful to improve the performances of the students, and are critical points where the Department and all the teaching staff can intervene:
- to select more properly the future applicants to the Veterinary Medicine program by promoting the program among high-school students with meetings or other activities. This will allow us to illustrate the peculiarities of the Degree course as well as the different branches of the veterinary profession and different job opportunity. This will help high-school students make a rational choice for their University career, considering/balancing properly compulsive personal motivations (e.g. a generic "love for animals"), and dissuading poorly motivated students that tend to drop the courses and to create problems to the teaching staff.
- to improve the performance of the students admitted to the program, mainly in the early stages of their studies, and to provide students with more rigorous rules during their training period. The Regulation for the new study plan of the Veterinary Medicine training of Bari fixes a minimum number of credits that must be accumulated before gaining access to the following years of the course. This restriction has been implemented in order to improve the students performances (see also previous comment). This measure would imply an immediate separation between high-performing and low-performing students, promoting in the former ones the awareness/perception of a delayed status. On the other hand this apparently unpopular measure would allows the students to understand their actual natural attitude for veterinary studies early in their study career. Those students would have the possibility to change their Degree course with minimal economical and time loss.
- to organise a curriculum with a positive impact on the students, able to maintain strong motivations during all the training period. This action has been taken into account when drawing up the new Regulation that is currently nearly finished. The new study plan has been structured to increase the practical activities: lectures hours in the first year have been decreased and hours dedicated to supervised practical training have been increased. This will favour early interaction of students with various domestic animals.
- to implement the quality control systems, in order to monitor the obstacles that can significantly create conflict with the student career and, eventually, to remove it (see Chapter 5 - Teaching: quality and evaluation).

Comment on the percentage of students that will eventually graduate.

During the last 5 years (2009-2013), about 67% of the total enrolled students (336 graduated over 500 enrolled, see table 9.4) has concluded its training period and has graduated.
To some extent, this low graduation rate may be ascribed to the "natural selection" exerted by the difficulties met by students during the training and by the "physiological" migration of students to other Degree courses or other University in the Country (drop rate of about 27%). These are normal and acceptable factors that, however, can not explain the reasons for the 33% of students failing to graduated.
The low graduation rate may be accounted for by for the high number of "off-course" students and, therefore, it can mirror the scarce progress made by students during their studies, issues that have already been discussed in the previous paragraph.
Moreover, it is a shared opinion among the Didactic Boards of the Veterinary Medicine Degree in the Country that 5 years are a minimum number of years not adequate to allow the optimal development of all education activities required for the veterinary training course and such condition contribute to reduce the percentage of students graduated over 5 years as to those enrolled in the same period. The percentage of students graduated in six years (2008-2013) over a five years period of enrolments 2008-2012), indeed, significantly increase (about 78%)
The proposal recently submitted by the Italian Conference of Department Directors involved in the Veterinary Medicine affaires to the Ministry for the extension of the minimum number of years necessary to complete the curriculum from 5 to 6 years, is currently under discussion.

9.3 - SUGGESTION

If you are not satisfied with the situation, please state in order of importance any suggestions that you may have concerning this Chapter if you feel unhappy about:
- The number of students admitted;
- The drop-out percentage and reasons, if known;
- The average duration of studies;
- Other aspects.

As underlined several times, a lot of situations underpinning the deficiencies in student admission and career development cannot be addressed by the managing committees of the Course alone, as they represent national problems of the Italian System for Higher Education.
In this case the only possible contribution from the Department is to point out the deficiencies and to exert pressure for solutions

Number of students admitted

The number of students admitted to the training course fits the “educational potential” of the course. It is evident, however, that the lower is the number of students attending the course, the higher is the "educational potential" of the course.

Nevertheless, the course cannot afford an over-cut of the available places as, with the current rules, by reducing the number of students the funding allocated for training will also be decreased (see Chapter 3 - Finances).
Indeed, among the parameters that influence the allocation of resources, the number of students has a determinant weight. This criterion is harmful for the Veterinary Medicine courses, as unlike other university courses, a rather low number of enrolled students determines heavy operating costs. A more rational allocation of resources should be devised.

The drop-out percentage and reasons

The total students who withdrew from the Veterinary Medicine course of Bari in the last 4 academic years is summarised in table 9.7.

Table 9.7 - Drop-out percentage and reasons

Out coming reasons	Years				Total
	2010	2011	2012	2013	
Transfer to other Degree course at the University of Bari	3	4	15	15	37
Transfer to other Veterinary course or other Degree course in other University	0	9	1	2	12
Renunciation to studies	6	10	8	5	29
Total	**9**	**23**	**24**	**22**	**78**

This drop-out, however is partially balanced by in-coming transfer of students from other courses of the University of Bari or from other Universities (see table 9.7 a)

Table 9.7a - In-coming transfer of students and reasons

Out coming reasons	Years				Total
	2010	2011	2012	2013	
Transfer from other Degree course at the University of Bari	6	6	7	10	29
Transfer from other Veterinary course or other Degree course in other University	7	3	2	9	21
Total	**13**	**9**	**9**	**19**	**50**

The total percentage of withdrawals in the last four years (new Veterinary Medicine course) is approximately the 20% of the total enrolled students.
Transfers to other degree courses represent a physiologic flow of students due to a bad initial choice of the university career. The passage of students from the Veterinary Medicine course of Bari to the same course of another University, usually located in Northern Italy, may be interpreted as unsatisfaction of some students who choose the Veterinary Medicine course of Bari. However, these decisions are often driven by an emotional-based attraction of the students

from South for the North of Italy, that is commonly perceived as a place with more occupational possibilities.
The drop-out rates, on the contrary, may depend on personal reasons (familiar, financial, health, etc) of individual students that cannot be related to deficiencies of the teaching offer and to student disappointment.
The measures planned to improve all the aspects of the learning environment have been already discussed in previous paragraphs and other chapter (See Chapter 4 - Curriculum and Chapter 5 - Teaching and learning: quality and evaluation) and have the purposes to decrease the number of student withdrawals from the study course.

Average duration of studies

As previously noted, the average duration of the study is quite long. In order to improve this figure it is necessary to work on the degree course and on recruitment of students.
The new study plan has been structured to fulfil these scopes. However, it is difficult to assess the effects of these changes, as no student of the new course has graduated yet.
The comments received during the first four years of the new course are contrasting. However monitoring of student career progressions thus far has provided us with a positive feedback. Moreover the amount of lectures during the 5th year has been drastically decreased and it has been mainly dedicated to practical activities. This should provide the students with more time to prepare the exams that they previously failed to pass.
It is still far too early to make a balance, but we are confident that these changes will have a positive impact, and will help the students decrease the time necessary to complete their curricular requirement and to graduate.

Other aspects

Not applicable

10 CHAPTER

Academic and Support Staff

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CHAPTER 10 - ACADEMIC AND SUPPORT STAFF

10.1 - FACTUAL INFORMATION

Definitions:
For definitions, also see the section "Main indicators" in ***Annex I****.*
Budgeted and non-budgeted posts: *A distinction is drawn between:*
- posts that are allocated to the Faculty and financed by the university or ministry responsible for the Faculty. These posts can be regarded as more or less permanent. They are termed "budgeted posts".
- posts that depend upon financing in addition to the allocation of budgeted posts from public money. These posts can fluctuate in number. They are termed "non-budgeted posts".
Full-time equivalents (FTE): Posts can be occupied full-time or part-time. The number given should correspond to a total of full-time equivalents (FTE). For instance 10 full-time posts plus two part-time posts at 50% plus 1 part-time post at 80% should be given as a total of 11.8 FTE.
VS versus NVS academic personnel: A distinction has to be made between teaching staff holding the degree of veterinary surgeon (VS) and non veterinary surgeon (NVS) teaching staff.
Teaching staff: It is understood fact that "teaching" staff will also do research.
Research staff: This category includes academic personnel whose main task is to do research work, even though they may from time to time participate in undergraduate teaching.
Support staff: This includes all posts, regardless of the work undertaken; secretaries, administrators, technicians, animal caretakers, cleaners, etc.
Interns*, residents, doctoral (Ph.D.) students are not included in the staff numbers unless they perform regular, paid, teaching activities for at least 20% of their workload.*

If you find that the distinctions made between different groups of staff do not fit your situation, make the best distribution you can of your personnel between the headings we use. Add an explanatory note if you wish.

All the **Budgeted Teaching Staff** involved in Veterinary Medicine Degree work full time and are represented by full professors (n=16), associate professors (n=20) and researchers (n=44) for a total of 80 members of the academic staff.
The complete list of the Academic Teaching staff involved in the degree course in Veterinary Medicine, along with a brief profile of the their research activity is available in Annex 10.1
It must be underlined that in the Italian University the primary task of the **full and associate professors** is teaching (a professor performs no less than 350 hours of teaching activities *per* year), but it is also understood that they also do research and have to hold academic positions. Furthermore, the historically designated "**researchers**", whose primary assignment is research, are without a doubt part of the teaching staff with a load which is, on average, a close second to that of the other members of the teaching staff. In fact, as a rule, researchers have only joint work obligations with the professors in the development of courses (assistance to students, assistance in the execution of practical work, participation in the exam commissions, etc.) and their official didactic engagement should not exceed 350 hours *per* year. Nevertheless, in the case of educational programming demand, the Departments can entrust researchers (subject to their consent) with teaching courses that, in accordance with the available finances, are to be paid for separately. In this case, the researcher is called "**Aggregate Professor**". In actual fact, this additional teaching activity is rarely, if ever, paid for, but researchers agree, all the same, to carry out the task since the teaching experience is important for their career progression. Due to the

teaching demand of the Veterinary Medicine Course of the University of Bari, researchers are always required to provide some amount of teaching which usually increases with seniority.

In calculating Indicator Ratios, budgeted full professors, associate professors and aggregate professors (n=56) entrusted with official teaching courses in the Veterinary Medicine training are weighted 1 Full Time Equivalent (FTE), even if they also teach in other courses, as they are fully involved in the management of the veterinary students' training. Budgeted researchers solely involved in joint teaching obligations (n=5) are weighted 0.5 FTE.
During the 2013 year, staff members have provided teaching only in two Degree courses other than Veterinary Medicine (Animal Science and Foodstuff Productions, Hygiene and Safety of Foodstuffs of Animal Origin). Although all of these teachers (one full professor and five associate professors) are always also personally implicated in activities linked to veterinary training (seminars, practical work, tutorial activity, etc.), these activities are not included in the FTE calculated for the Veterinary Medicine course. On the contrary, aggregate professors (n=13) involved in degree courses other than Veterinary Medicine, maintain their position and discharge their duties as researchers in the Veterinary Medicine course and, therefore, are weighted 0.5 FTE each.
The category "Others" includes one lecturer devoted to the improvement of student English (1 FTE), to contract professors which are entrusted with the "Statistics" and "Zoology" courses (2 FTE) and staff hired mainly for supervised clinical and practical teaching activities. They all belong to non-budgeted staff and are directly paid by the University or depend on additional financing and are paid with extraordinary funds supplied by the University or by the "Fund for the didactic costs" allocated to the Department of Veterinary Medicine (see Chapter 3 - Finances). There are three practitioners, assigned to 24 Hour Emergency and Hospitalization Services (for night and public holydays shifts) in the Veterinary Teaching Hospital which salary is derived by internal grants of the Department of Emergencies and Organ Transplantation and extraordinary funds provided by the University. They are considered as part-time professors (0.5 FTE each). A contract has also been entered into with a Large Animal practitioner fully involved in the veterinary student clinical training, who has been weighted 1 FTE.
The category "Others" also includes some fellowships and other kinds of research grant recipients. Among these, in fact, 12 veterinarians (based on their curriculum and experience) are acknowledged by the Department Board to cope with teaching duties in a particular scientific field. They are nominated as "expert in a subject" (*Cultore di Materia*) and the annual mean teaching load for this "others" staff has been calculated at a total of 1.2 FTE.
The University, moreover, yearly awards selected students, PhD students or other fellowship recipients, with 8-9 grants to supply support tutorial activities to students who have fallen behind. In 2013, nine grants (150 hours each) were assigned for the requirements of the three Degree Courses carried out at the Veterinary Campus. The load of these activities is calculated for a total of 4 FTE, of which 3 FTE were dedicated to Veterinary Medicine student training.
Finally, a certain number of professionals offered their assistance in veterinary training even if they were paid a nominal wage, often derived from private funds, or even worked without remuneration. Among them, two have cooperated for several years (and now are still working members) with the academic staff in the clinical training of the students of Veterinary Medicine by carrying an annual teaching load that can be estimated at about 0.25 FTE each.
Overall, the aforementioned staff ("Others"), accounts for 8.2 FTE and is included in Table 10.1 in the non-budgeted academic staff.

During the previous year, in order to increase the number of veterinary supervisors assigned to "*tirocinio*" practical training (see Chapter 4 - Curriculum), the Departments have undertaken some official agreements with ASLs (territorial units of the National Health System), Experimental Zoo-prophylactic Institutes, animal food production and foodstuff production plants, animal production farms, equine breeding and reproduction centres, slaughterhouses, etc. (see the complete list of the aforementioned agreements in Annex 4.3) to achieve an adequate supply of qualified joint teaching staff (n= 49), with expertise in different specific areas.
Moreover, in accordance with the Doctorate School Regulations, PhD students (subject to their consent) can be given some tutorial and teaching-support duties providing that they do not exceed 50 hours per year. This activity is never remunerated, but some PhD students appreciate the opportunity to gain experience in teaching and carry out this task with pleasure. The teaching engagement of PhD students (25 students during the 2013 year) is documented in the bi-annual reports of their activity.
It is difficult to calculate the exact amount of time spent in teaching activity by each of these PhD students or practitioners, because it differs according to the duties assigned to them, but their annual teaching load has been estimated at about 0.1 FTE each. Therefore, although it is not included in Table 10.1, the teaching activity performed in 2013 by the PhD students and external veterinarians in the three different degree courses offered by the Department of Veterinary Medicine of Bari, may be estimated as 7.4 FTE on average.

The budgeted **Support Staff** engaged at the University includes three main categories according to competencies and tasks: manager, vice-manager and technical/administrative staff. The Support Staff employed in the Veterinary Medicine degree programme is represented by 64 full time budgeted members (3 vice-managers and 61 technical/administrative staff members at different career levels) distributed among the Departments (n=58) and other facilities (library n=3, student's office n=3).
To calculate the Support Staff FTE as specified in table 10.1, the possible involvement of the same person in more than one activity has been considered. For example, Support Staff employed in clinical subjects, laboratories, or personnel assigned to animal care, spend part of their work time in supporting practical teaching and in supporting research in the remaining time. In the clinical practical, the division between the two activities is subtle, but an effort has been made to quantify the time committed to the two activities.
Non-budgeted staff depend on additional financing coming from:

- the University (contracts for workdays assigned to seasonal farm workers, contracts with students for part-time activities to be carried out with the secretaries or the library, contracts for informative tutoring)
- research grants: contracts and fellowships for research tasks;
- outsourcings established by the University of Bari (caretakers n=2, night-watchman service n=1, cleaners n=20)
- agreements between the Department and public bodies (Ministry of Justice for work done by prisoners as part of projects aimed at their integration in socially useful work)
- agreements between the University and private enterprises (staff assigned to the running of the cafeteria n=3 and the canteen n=2).

All budgeted members of support staff are engaged for about 1656 hours work per year and are weighted 1 FTE. This is reduced in percentage for the non budgeted part-time staff.

Table 10.1 - Personnel in the establishment provided for veterinary training

	Budgeted posts (FTE)		Non-budgeted posts (FTE)		Total (FTE)	
1. Academic staff						
	VS	**NVS**	**VS**	**NVS**	**VS**	**NVS**
Teaching staff	**38**	**18**			**38**	**18**
Research staff	**6**	**3**			**6**	**3**
Others (1 lecturer, 2 contract professors, 3 Small Animal and 1 Large Animal practitioners, 12 experts in a subject, 2 voluntary veterinary assistants)			**7.2**	**3**	**7.2**	**3**
Total FTE	**44**	**21**	**7.2**	**3**	**51.2**	**24**
Total FTE (VS + NVS)	**65**		**10.2**		**75.2**	
FTE provided for teaching last year*	**9**	**-**	**3.5**	**-**	**12.5**	**-**
2. Support staff						
a) supervisors for the care and treatment of animals	**6.3**		**0.3**		**6.6**	
b) supervisors for the preparation of practical and clinical teaching and for the routine clinical work of the teaching hospital	**9.1**		**-**		**9.1**	
c) supervisors for administration, general services, maintenance, informatics support, librarians	**33.2**		**0.5**		**33.7**	
d) engaged in research work	**14.2**		**7**		**21.2**	
e) others (caretakers, night-watchman service, cleaners, gardeners, staff assigned to the cafeteria and the canteen).	**-**		**18.65**		**18.65**	
Total support staff	**62.8**		**26.45**		**89.25**	
3. Total staff	**127.8**		**34.65**		**162.45**	

* 5th year of the "old regulations course"

Table 10.1a - Budgeted and non-budgeted teaching staff (FTE) involved in veterinary and/or extra-veterinary training during the year 2013.

	Budgeted post	Non-budgeted post	Total
Teaching staff involved in veterinary training	65	10.2	75.2
Teaching staff involved in veterinary and extra-veterinary training	77.5	10.2	87.7
Further non-budgeted teaching staff involved in veterinary and extra-veterinary training not included in Table 10.1	-	7.4	7.4
TOTAL Teaching Staff actually involved in veterinary and extra-veterinary training in 2013			**95.1**

Table 10.2 - Allocation of academic staff (veterinary surgeons - vs; non veterinary surgeons - Nvs) - expressed as FTE - and support staff to the various Departments and other structures.

DEPARTMENT STRUCTURE	Academic staff									
	Full Prof.		Associate Prof.		Aggregate Prof.		Researchers		Others[1]	
	VS	NVS	VS	NVS	VS	NVS	VS	NVS	VS	NVS
DVM	7.0	2.0	7.0	1.0	14.5	5.5	1.5	-	3	-
DEOG	6.0	-	1.0	5.0	6.0	1.5	1.0	-	-	-
DAETS	-	-	-	-	-	2.5	-	-	-	-
DISPFS	-	-	-	-	.	1.0	-	-	-	-
DBBB	-	-	-	1.0	-	0.5	-	-	-	-
DB	-	-	-	-	-	1.0	-	-	-	-
Extra-Departments	-	-	-	-	-	-	-	-	1.7	-
University	-	-	-	-	-	-		-	4.5	1

DEPARTMENT STRUCTURE	Support staff		
	Technical staff (b)(d)	Animal caretakers (a)	Administrative and general service (c)(e)
DVM	10.5	3.4	21.1
DEOG	9.4	2.9	5.5
DAETS	-	-	-
DISPFS	-	-	-
DBBB	3.4	-	0.6
DB	-	-	-
Extra-Departments[2]	7	-	0.25
University	-	0.3	6[3] / 18.9[4]

DVM - Department of Veterinary Medicine, DEOT - Section of Veterinary Clinics and Animal Production of the Department of Emergencies and Organ Transplantation, DAETS - Department of Agro-Environmental and Territorial Science, DISPFS - Department of Soil, Plants and Food Science, DBBB- Department of Biosciences, Biotechnology and Biopharmaceutical., DB - Department of Biology

[1]: non-budgeted post - [2]: non-budgeted post: staff engaged in research work - [3]: budgeted posts: librarians, personnel in student's office - [4]: non-budgeted posts: part-time and tutor students, caretakers, night-watchman service, cleaners, gardeners, staff assigned to the cafeteria and the canteen

Ratios: from the above data please delineate the following ratios

Table 10.3 - Teaching capability - student/teaching staff and teaching staff/support staff ratios (see comment in following paragraphs)

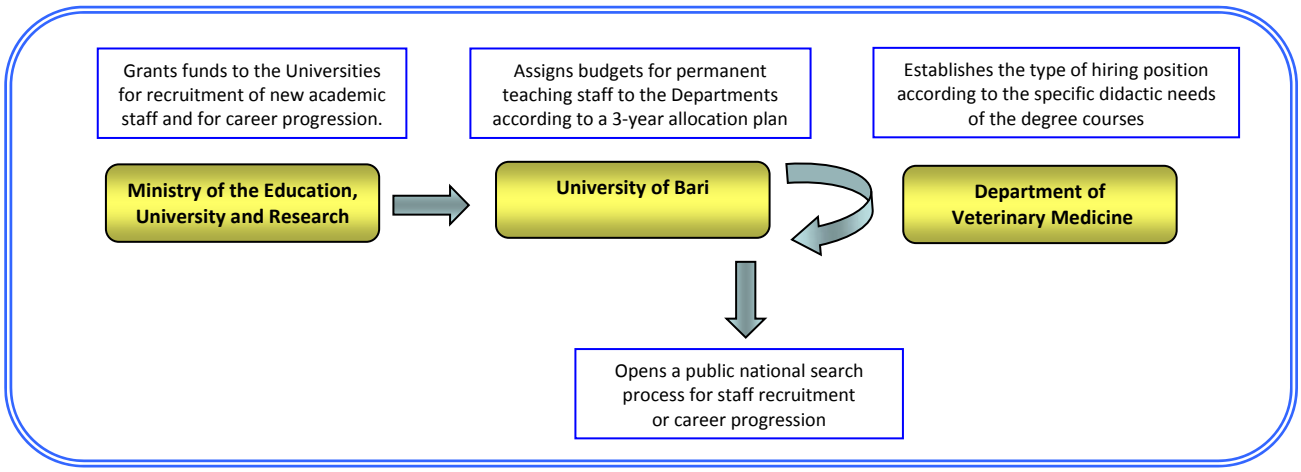
Ratios					Calculated Denominator	Established Denominator by ECOVE
R 1	n° total academic FTE in veterinary training / n° undergraduate veterinary students	=	75.2 / 585		1 / 7.779	↓ 8.832
R 2	n° FTE total in all degree courses / n° all undergraduate students	=	87.7 / 915		1 / 10,433	↓ 9.619
R 3	n° VS FTE in veterinary training / n° undergraduate veterinary students	=	51.2 / 585		1 / 11.42	↓ 11.389
R 4*	n° VS FTE in veterinary training / N° of students graduating annually	=	51,2 / 67.2		1 / 1.31	↓ 2.203
R 5	n° total FTE academic staff in veterinary training / n° total FTE support staff in veterinary training	=	75.2 / 89.25		1 / 1.186	0.474-1.944

Outline how the allocation of staff to the Faculty (Departments) is determined.

Teaching staff

The mechanisms regulating the allocation of permanent teaching staff to the Veterinary Medicine course can be schematically described in Figure 10.1

Figure 10.1 - Flow-chart showing the mechanisms that regulates the resources awarding, the posts allocation and the recruitment procedures of permanent teaching staff



The competent Ministry periodically grants funds to the Universities for recruitment of new professors and researchers and for the career progression of academic staff. The total budget available at the University for these purposes also includes the budgets derived from the loss of permanent posts (retirements, transfers or other).
The allocation of the budget for permanent teaching staff by the University to the Faculty in past years, and directly to the Departments now, follows the resolutions of the Academic Senate that periodically approves a 3-year allocation plan (*Piano organico* - Permanent Staff Plan) according to assignment mechanisms that have undergone repeated variations in recent years but that, to this day, has regards the ratio of number of students enrolled/number of teachers as a main criterion for resource allocation. Starting from 2013, a monitoring process of the teaching and research quality of the Italian University Degree Courses is in process according to rules enacted by the MD47/2013 (see Chapter 5 - Teaching: quality and evaluation) and in the future these parameters will raise crucial importance also in the public funds awarding for the recruitment of new staff and for the career advancement of the permanent staff.
At the end of these assignment processes, the departments receive a budget that can used, with a certain degree of freedom, to hire new academic staff or to allow for the career progression of the staff already present.
The actual opening of teaching positions, however, is made by the University Senate following recommendations proposed by the Veterinary Medicine Degree Course Board and formally approved by the Veterinary Medicine Department Board in accordance with the available budget (see paragraph further on).
Once the number and type of position have been established, the posts are assigned through a national public search processes. Applicants to posts of Full or Associate professor are required to

obtain a previous qualification that is assigned through the evaluation, by a National Committee, of the scientific activity performed by the candidate.
Finally, academic staff can be recruited also via the transfer of teachers from other Universities.
Full professors and associate professors recruited in national competition procedures are hired for permanent positions. On the contrary, starting in 2011 (the date of the coming into force of the new rules for the organization of the University) (see Chapter 2 - Organisation) researchers have been recruited by public selection procedures and hired with a limited-time contract (three years, renewable for two more years). Upon expiry of the contract, a university commission evaluates the researcher's scientific and teaching career, and, in case of approval, he is recruited to the position of permanent associate professor.

Support staff

Allocation of support staff to the departments is made by the main administration office of the University (Administration Council of the University of Bari) following recommendations issued on the basis of parameters such as the annual departmental budget and the teaching/support staff ratio.
Additional staff necessary for specific needs (administrative, animal care or general services) can be requested by the University on the basis of documented demands forwarded by Departments or other facilities (e.g. library).
The candidates are selected through a specific public competition published by the University. The request for additional staff can be also met by the transfer of personnel from one department to another.

Outline how the allocation of staff to the departments (or other units) within the Faculty is determined.

Teaching staff

According to National Regulations, each member of the teaching staff is associated with a specific field of competence or Scientific Disciplinary Sector (*Settore Scientifico Disciplinare* -SSD) and the opening of positions proposed by the Veterinary Medicine Degree Course Board is mainly based on the analysis of the specific didactic needs of the different degree courses (i.e. didactic load of different SSDs in relationship to the available teachers) and on the requests for research and the clinical needs advanced by the different SSDs that constitute the whole teaching staff.
However, the crucial factor influencing the sharing of the available budget for academic staff recruitment by the department is the different gross hiring cost for each type of position (120,000 €/year for full professor, 90,000 €/year for Associate professors and 60,000 €/year for Researchers) that determines the possibility to define how many, and which type of position can be opened.
Upon starting their service, all new professors or researchers have to choose the department to which they want to belong. The acceptance of their request is subordinate to approval by the Department board. Since teaching and research activities are strictly interconnected, and historically the main task of departments is to perform research and provide services, in all instances the teaching staff choose to join the department befitting their research or service to

client activities. However, over the course of their career, teachers can decide to change department when they so desire.
The Department, within the budgetary limits, is free to recruit teaching staff from public or private institutions, or private professionals to improve the quality of the training course. In this last case, the contracts are temporary (non-budgeted posts).

Support staff

Needs for support staff are discussed within the Departments or other units (e.g. library, students' secretariat) and directly negotiated with the main administration office of the University on the basis of the University organisation chart.

Indicate whether there are difficulties in recruiting or retaining staff.

The only personnel recruitment difficulties for Teaching staff and Support staff are connected with the availability of economic resources and, in recent years, the allocation of budgets for new staff distributed by the Ministry has substantially decreased. (see Chap 3 - Finances).
Moreover, according to the legislation in existence since 1995, the total amount of staff-related expenses of each University should not exceed 90% of its Ordinary Financing Fund (See Chapter 3 - Finances). In the case of overflow, the University is penalised with a reduction in the possibility to fund new positions for the replacement of retired staff members. Over the last several years, the University of Bari has approached or even gone beyond this limit. For this reason, a decrease in new positions for Teaching and Support Staff, as well as in the number of promotions, has been applied and, consequently, over the past few years the Faculty has experienced some difficulty in recruiting new teaching, research and support staff for the veterinary training course.
Moreover, recruitment procedures are usually time-consuming and can be delayed because of organizational problems at the Ministry level, which is unrelated to the Departments or to the University of Bari.

Describe (if appropriate) any relevant trends of changes in staff levels or the ability to fill vacancies over the past years

Table 10.4 reports the breakdown of teaching staff by role in 2004 (last EAEVE visit time), as compared to the current situation.

Table 10.4 - Numerical changes in teaching staff levels during the last 10 years

	2004	2013
Full professors	23	16
Associate professors	22	20
Researchers	38	44
Others[1]	13	22
TOTAL	**96**	**102**

[1] non budgeted staff

In recent years, the number of budgeted academic staff positions has not changed significantly and the higher total number of teachers recorded in 2013 mirrors the annual variability of non-budgeted posts.
During these last 10 years, 20 staff members (12 full professors, 7 associate professors and 1 researcher) left vacant permanent posts (retirements, transfers or other) that were partially held by promotion from one level to another (from researcher to Associate Professor n=9, or from Associate Professor to Full Professor n=5). Although this mechanism has a lower cost than recruiting for a new post, the policy adopted by the ex-Faculty of Veterinary Medicine was to promote the recruitment of researchers (n=10) and to involve teachers from other Degree Courses of the University of Bari in the teaching activity (n=4) .

Table 10.4a shows the number of support staff by role in 2004 (last EAEVE visit time) as compared to the current situation.

Table 10.4a - Numerical changes in support staff levels (budgeted and non-budgeted posts) during the last 10 years[1]

	2004	2013
Supervisors for the care and treatment of animals	5	6.6
Supervisors for administration, general services, maintenance, etc.	52	52.35
Engaged in research and didactic work	48	30.3
TOTAL	**105**	**89.25**

[1] to make the comparisons, the same allocation of different tasks adopted for the SER drawn up on the occasion of the last EAEVE Commission visit has been observed.

In recent years, the number of support staff positions has undergone a slight decrease due to the reduction which has occurred in the number of budgeted staff, mainly among the administrative staff. In fact, 32 units (21 supervisors for administration, general services, maintenance, etc. and 11 staff members engaged in research and didactic work) left vacant permanent posts (retirements, transfers or other) that were held by 13 new positions for each category.
Nonetheless, all the administrative demands for the correct running of the Veterinary Course are fully accomplished by the integrative activities carried out by the non-budgeted staff hired yearly.

Indicate whether it is easy to employ additional staff from service income (e.g. from revenues of clinical or diagnostic work)

With the agreement of the Department Board, additional Staff can be temporarily hired for specific tasks with any source of funds.
However, in the event, neither the Teaching Hospital nor the Departments have the possibility to employ additional staff directly using service income (clinical, diagnostic or laboratory revenues).
Such revenues, according to University regulations, are distributed among the same University, the Department and the Staff who contributed to the service and no shares are scheduled for staff employment.

On the contrary, support staff devoted to research work has been employed easily with time-limited contracts (generally no less than 1 month, no more than 1 year) that are charged to research grants.

Describe the regulations governing outside work, including consultation and private practice, by staff working at the establishment

Academic staff can choose between full-time or part-time work options.
The full-time option is not compatible with any job outside the University except for occasional consultation, subject to approval by the academic authorities.
Moreover, all forms of private external work are prohibited inside the University structures and services rendered to third parties (clinical, diagnostic, pharmacological, etc.) are permitted following the stipulation of the appropriate contract or convention with specific University Departments.
Full time professors can perform paid activities (or duties) for public administrations, or industrial and commercial (private and public) companies. Permission must be requested by the person concerned or by the private or public subject conferring the appointment. The full time professor must produce a declaration of commitment to fulfil his/her academic commitments.
Part-time professors are allowed to have a private clinical or diagnostic activity, but all part-time personnel have a reduction of their salary of approximately 33% and they do not have access to any academic positions.
Industrial and commercial activities, business participation and private company employment are forbidden for both full and part time teachers.
Currently the entire Teaching Staff involved in the veterinary training course is on full-time regime.

Describe the possibilities and financial provisions for the academic staff to: (a) attend scientific meetings; (b) go on a sabbatical leave.

The academic staff is free to attend scientific conventions and meetings. If such meetings are scheduled during the teaching period, teachers have to guarantee the regularity of the teaching activity by seeking substitution or hour exchanges.
Participation in scientific conventions and meetings must be entirely funded by participants as there are no financial provisions dedicated *ad hoc* to that purpose.
Researchers can apply for an extraordinaire contribution from the University to cover part of the expense of attending scientific/educational meetings but, generally, in the recent past, they have had to use their own research grants.

Full and associate professors have the right to apply for a one-year period of leave (sabbatical year) to dedicate themselves to research/study activities; this time can be spent in Italy or abroad at different research/didactic institutions. A sabbatical can be asked for no more than two times in a 10-year period.
Applicants must present a research/study activity project to the University Rector who reserves the right to authorise it or not, after having also heard the opinion of the applicant's Department. Generally, the Departments comply with the request provided that the other staff members agree to temporarily substitute the applicant in his/her teaching activity. At the end of the sabbatical

period, the professor must present a report on the activity carried out and the results achieved to the Department and to the Rector. When on sabbatical leave, professors maintain their full salary and these periods are considered in the same way as internal service for career progression.
At the ex-Faculty of Veterinary Medicine of Bari, no teacher has taken sabbatical leave in the last 10 years.
Researchers can apply for a leave period of maximum one year, extendible for a further year for research reasons. However, they cannot take more than five years of leave in a 10-year period. Applicants must present a research project and an agreement letter from the host Institution to the University. During these periods, the researcher maintains his/her full salary and career seniority progression.
Moreover, the teaching staff can spend short periods at different national and international institutions for didactic reasons within *ad hoc* or official (Erasmus/Socrates projects) conventions.

10.2 - COMMENTS

Comment on the numbers of personnel in the various categories.

In spite of financial limitations, the policy adopted by the ex-Faculty in the last decade has made it possible for the number of Academic Staff to remain almost unchanged. It must be pointed out that this result has been achieved by a significant increase in the number of Researchers/Aggregate professors which, along with a significant number of retirements (the mandatory retirement age for academic staff is age 70), has led to a significant lowering of the average age of the academic teaching staff (mean age = 53 years).
The possibility to recruit Contract professors with expertise in some specific areas, on the contrary, has been significantly affected by the negative item under the budget voice. At present, the Department has four regular contracts with clinical practitioners who are directly involved in practical activity. Moreover, in order to improve the quality of the practical teaching for students, it can rely on a number of professionals who contribute under official agreements or who are paid a nominal wage or even work without remuneration.
Under present conditions, the Veterinary Medicine Course has reached a reasonable academic staff/student ratio that can guarantee the regular progress of all training activities scheduled by the Course program, in part thanks to a number of ancillary personnel mainly involved in supervised clinical and practical teaching activities.
There is no doubt that the teaching capability of the academic staff for Veterinary Medicine training is strongly affected by the engagement of teachers in degree courses other than Veterinary Medicine.
For a more comprehensive interpretation of the ratios quoted in table 10.3, however, we want to stress the positive role of the PhD students and of veterinary supervisors assigned to "*tirocinio*" practical training in helping the teaching staff in many practical and clinical activities. Furthermore, the ratios will be improved in the near future by the decrease in student enrolment, as a consequence of the cuts to students entering the first year course (see Chapter 9 - Admission and Enrolment). It must be underlined, however, that this can trigger a vicious circle because by decreasing the number of students, funds for staff recruitment will also decrease (see Chapter 3 - Finances). A further improvement of ratios will also be assured by the expiry of the Veterinary Medicine's "Old regulation course": in 2014/15 all students belonging to the prior system will be

"off course" and their attendance in the educational activities offered by the academic staff will be significantly curtailed.
As the R2 ratio (n° FTE total in all degree courses/n° all undergraduate students) is concerned, it must be remembered that student attendance in the two degree courses other than Veterinary Medicine is not compulsory and the real number of all undergraduates fully weighing on the teaching staff is estimated at about 755 students. (see Chapter 9 - Admission and Enrolment). According to this rating, the R2 ratio calculated (1/8.608) is fully consistent with the denominator established by ECOVE.
Finally, a better exploitation of the human resources devoted to teaching could be obtained by a more fruitful distribution of hours among teachers. This can be solved by a better plan for the sharing of the teaching load that can be effectively achieved when all the new training curricula of the different Degree courses will have completed their first cycle (i.e. in 2014).

The budgeted support staff has suffered a substantial reduction over the last decade.
The freezing of recruitments due to the limited availability of economic resources has definitely affected this negative trend, but the main reason for this decrease can be traced back to the decentralized position of the Veterinary Campus. In fact, due the possibility to transfer from one department to another, when the opportunity arises, the personnel residing in Bari try to move to departments located in the city. On the contrary, few people agree to transfer to a decentralized location.
It must be underlined, however, that although technical staff must be increased, especially animal caretakers and personnel supporting practical teaching activities, the non-budgeted staff remains an essential component for completing and supporting the technical/administrative activities necessary for the regular functioning of the Veterinary Medicine course. Serious problems arise, for example, when a member of the budgeted support staff is off (for illness or on maternity leave) because there is no possibility to substitute that staff member.

Comment on the salary levels, especially those of academic staff in relation to the level of income in the private sector.

According to national law, salaries are the same in all the Italian Universities for both teaching staff and for vice-managers and technical/administrative staff (manager salaries, on the contrary, are negotiated by the university administration). This favours the personnel working in southern Italian universities, like the University of Bari, where the cost of living is lower than in northern Italy where costs approach those of any large European city.
In general, however, the salaries of academic staff, and even more so for the support staff, are low in comparison with those of their European counterparts and with those of other Italian professionals and officials in public administrations at a comparable career level. On the contrary, the salaries of academic staff, in general, compare favourably to the average earnings of private practitioners.

Tables 10.5 and 10.5b quote the approximate gross amounts of the entry level salaries for academic staff and support staff.

Table 10.5 – Entry level gross salaries of full time academic staff**.**

Position	€/year
Researcher	38,600
Associate Professor	55,200
Full Professor	72,850

Table 10.5b – Entry level gross salaries of full time support staff

Position	€/year
Vice-manager	24,580
Technical/administrative staff	16,200

It can be clearly seen that the gross salaries of the support staff are well below the salaries of the academic staff and that of a researcher is about 70% of that of an associate professor, who gets a salary of about 70% of that of a full professor.
The net salaries (after the deduction of taxes), however, correspond to about 75-55% (in parallel with career progression) of the reported figures as they include taxes and the amount of money that is accumulated compulsorily for pension plans.
The economic progression of a University teacher's salary is complex and is based mainly on seniority according to three-year pay increments. However, due to the national financial crisis the salary increments of academic staff have been blocked since 2010. Recently, premium bonuses have been planned for didactic merits and the rules for assigning these rewards are under discussion (see MD47/2013, Chapter 5 - Teaching: quality and evaluation). According to the University Regulation, moreover, all staff involved in clinical, diagnostic or laboratory services can receive some allowances in addition to their basic salary as a part of the generated revenues.
Therefore, salaries can vary and it is difficult to estimate the actual earnings for the University personnel. In table 10.5c an estimate of the monthly net salary of academic staff at about the halfway point of their career is proposed, considering also their age.

Table 10.5c - Monthly net salary of academic staff at about the halfway point of their career and mean age at entering the position

Position	Mean age of entering in the position (age)	Monthly net salary at the halfway point of their career (€)
Researcher	30-32	2,400
Associate Professor	38-40	3,000
Full Professor	About 50	3,900

It must be pointed out that the low level of salary is compensated by the fact that all budgeted posts are permanent civil servant positions with several associated advantages.

Comment on the ease or difficulty of recruiting and retaining personnel.

Careers in both the academic and the support staff are very appealing to the younger generation in part because the academic profession is considered to be socially prestigious. The individual freedom guaranteed by the absence of a predetermined work schedule (for the academic staff) is surely considered positively but, especially with the current crisis in the job market, what is most appreciated by all categories is the job security ensured by a "permanent post".
Difficulties in recruiting personnel are only related to the economic restrictions previously mentioned and to the recurring freezing of the selection procedures by the national authorities, which delay recruitment times. This last situation can discourage young PhD doctors from investing several years of their life to achieve the post of researcher.
On the contrary, due to the aforementioned fact of these being permanent posts, there is no difficulty in retaining those people already hired. Only for certain particular reasons (the undertaking of a career abroad or similar activities in the private sector remunerated with higher salaries) will researchers leave their position. But those are very rare cases.

Comment on the percentage of veterinarians in the academic staff

The percentage of veterinarians in the academic staff engaged in the Veterinary student training, expressed as FTE, is about 70% (51.2 FTE out of a total 73.2 FTE). Teachers with other educational backgrounds have degrees in Biology, Chemistry, Pharmaceutical Sciences, Economics or Agricultural Sciences. The presence of teachers with these qualifications is necessary in several basic disciplines (math and physics, chemistry, economics) and in disciplines which are closely associated with the veterinary profession (agronomy, animal husbandry and production). All teaching staff involved in clinical science and basic science (according to the EU-listed disciplines) are veterinarians except for three biologists involved in the teaching of Anatomy and one biologist involved in laboratory diagnostics.

10.3 SUGGESTIONS

The possibility to optimize the student/teacher ratio is undoubtedly affected by organizational and economic factors.
The first factor aims to lower the number of students in training.
The comments and suggestions proposed to decrease the number of repeater students, leading to a reduction in time needed to graduate and to abate the overall number of students, have already been discussed in Chapter 9 (Admission and Enrolment). Nevertheless, the number of new students has already been reduced during this last year and, most likely, the current number is going to decrease, in order to comply with a more efficient system.
As for the economic factors, considering the current trend of world economics, the general policy of the government toward a decrease in economic resources for education, as well as the improbable possibility of self-financing by the department, the recruitment of a substantial

number of new teacher personnel is unlikely in the near future. Therefore, priorities need to be set.

Based on the present situation, what looks like a good proportion between the teaching staff positions (full professors n=16, associate professors n=20 and researchers n=44) has been reached during recent years. In reality, the heavy teaching load assigned to the research staff penalizes their research activity and a number of research contracts are needed to compensate for these shortages. Furthermore, it is absolutely necessary to continue on with the policy adopted by the ex-Faculty during the last year to recruit new researchers, possibly also exploring alternative funding sources. This would also have the positive result of lowering the average age of the teaching staff.

However, it would be desirable to allow for career promotions of the existing Researchers/Aggregate Professors, thus giving stability to their teaching activities.

Moreover, should resources for new staff become available, a further no less important priority should be for support staff, mainly for animal caretakers, supervisors for support in practical and clinical teaching and for the clinical routine activity in the teaching hospital.

Support staff is a fundamental element in the world of the academy. The educational activities of the teaching staff suffer from the lack of a sound support base and the students' educational path toward becoming trained practitioners can be adversely affected.

11 CHAPTER

Continuing education

Written by
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Contributors
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CHAPTER 11 - CONTINUING EDUCATION

11.1 - FACTUAL INFORMATION

Please describe the role of the Faculty in providing continuing education.

Teachers from the Veterinary Medicine Course schedule and organize up-to-date courses for graduates from different scientific subject areas that are self-employed (contractors or consultants in the private sector) or employed in the public sector, for students and for technicians, according to their own levels of competence.
In particular masters, conferences, seminars, specialty courses, theoretical lectures and practical works are arranged directly by the teaching staff (table 11.1) or in cooperation with the major professional Italian private and public institutions and associations.
Among the various education trainings offered, it must remember the Parasitological Summer School (ParSCo) organised every year by the Parasitology Unit of the Department of Veterinary Medicine together with the European Veterinary Parasitology College (EVPC) (see Chapter 12 - Post-graduated education) and the "Itinerary of Anaesthesia for Practitioners" organised by the Veterinary Clinics Section of the Department of Emergencies and Organ Transplantation. This last is an Anaesthesia Course arranged in 3 meetings of 3 days each that includes theoretical lectures, practical works and 3 specialist workshops on different topics of anaesthesia.
Additionally, the Department of Veterinary Medicine offers sponsorship to several external courses. Patronage is granted on the basis of the scientific content of the course, the curriculum of the external staff involved and the contribution of the Vet-Campus teaching staff.
Continuing education is facilitated by logistic premises, since a large multimedia Auditorium (*Aula Magna*) with 270 seats and equipped with a computerized projection system, a full-size screen, and a professional sound system is available at the vet-Campus for these purposes. Moreover, a large car-parking area for visitors outside of the Vet-Campus, a cafeteria and a canteen service is available for the guests.

Indicate the involvement of teaching staff at the establishment involved in continuing education organised by outside organisations

Members of the teaching staff are frequently called for the organization of continuing education courses offered by public and private veterinary institutions and associations, such as cultural associations, Professional Board and National Health Service.
Moreover, several teachers are invited as expert lecturers and, usually, they are able to cover most if not all the scientific fields involved in the different continuing education programmes.
Due to the personal involvement of teachers, a detailed record of these activities is not available.

If the establishment is involved in providing distance learning, please outline the nature and the volume of this work

Currently, no internet learning is yet offered.

Table 11.1 - Main courses, seminars, workshops organised by the teaching staff of the Veterinary Medicine Degree Course during the 3 last years. Most of this continuing education have been performed at the Vet Campus.

DATE	TYPE OF COURSE	TITLE OF COURSE
26.01. 011	Seminar	The relationship man/dog: ethology and psychology
13-15.04.2011	European Congress	Association of Veterinary Anaesthesiologists Spring Meeting
14. 04. 2011	Seminars	From evolution to the genomics devolution and beyond-implications for investigating infectious diseases
19. 05. 2011	Workshop	Cutaneous parasitic infection of the dog
24-26.05.2011		Principles of Neuropathology in Animals
19-23.09.2011	Theoretic/practical course	Artificial insemination
27. 10. 2011	Seminar	Wireless systems for transmission applied to mariculture and aquaculture
23-24.11. 2011	National Congress	IX National Congress of the Animal Reproduction Italian Society
25. 11. 2011	Workshop	The quality of lamb meat: effects of the parenteral administration of antioxidants in the pregnant sheep
25.02/16.06. 2012	Theoretical course	Aquarium and Terrarium
15. 03. 2012	Workshop	The new facets of the food safety.
18. 03. 2012	*Lectio Magistralis* (prof Eckhard Wolf)	Genetically designed pig models for translational diabetes research Tailored pig models for human monogenetic diseases.
21. 03. 2012	Workshop	The veterinary profession after deregulation
19. 05. 2012	Seminar	Dog aggressiveness: etholgy and therapy
6. 10. 2012	1st Health Education day	-Coronavirus infection in bird cage -The main bird cage diseases - Management and therapeutic approach in the domestic birds breeding farm - The fowlpox in canary: prevention and ”care”
29. 11. 2012	Workshop	Bovine oxidative stress evaluation, influence on the milk quality: practical aspects for dairy farming production improvement.
10-14.06. 2013	Training for veterinarians (Project NETCET)	Conservation of cetaceans and sea turtles in the Adriatic
28. 06. 2013	Workshop	Safety procedures to practice with zoo and wild animals: manual and pharmacological procedure to containment.
28. 09. 2013	Workshop	Outpatient Anaesthesia and Analgesia
28. 10. 2013	Workshop	The dromedary camel as a domestic producing animal
30.11.2013	Theoretic/practical seminar	A journey to the future of horse training”
Workshops organised by student associations and sponsored by the Department		
9. 03. 2012	Workshop	Research and use of the staminal cells.
15. 03. 2012	Workshop	The new facets of the food safety.
9. 04, 2013	Workshop	Food adulteration: authorities involved in controls and role of the veterinary
14. 05. 2013	Workshop	The medicine of the non conventional animals: a future opportunity for the veterinary practitioner

11.2 - COMMENTS

Comment on the quality of the continuing education programmes in which the establishment is involved.

In our opinion, the quality of the programmes is generally very good. The teachers are qualified experts and specialists. The infrastructures hosting these courses can be deemed excellent.

Comment on the degree of participation of veterinarians in the continuing education programmes in which the establishment is involved.

The continuing education programmes organised and/or supported by the academic staff at the vet-Campus or outside acknowledge the graduates' demands and satisfy their requests as demonstrated by the number of colleagues attending the courses.
The continuing education events, moreover, are regarded as an excellent platform upon which to establish good working relationships with the practitioners and the veterinarians in charge of the Public Health institutions.

11.3 - SUGGESTIONS

No suggestions.

12 CHAPTER

Postgraduate education

Written by
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Contributors
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CHAPTER 12 - POSTGRADUATED EDUCATION

12.1 - FACTUAL INFORMATION

This heading covers all further training leading to a diploma - special postgraduate studies, Ph.D. courses, research training programmes, and national or European College specialised qualifications.
Please provide details of all postgraduate training opportunities in tabular form under "Factual Information".

The Departments involved in the Veterinary training offer the following post-graduated education programs.

- Residency training program of the European Veterinary Parasitology College (EVPC)
- Seven PhD Courses
- Postgraduated Specialization school in Infectious Diseases of Animals
- Postgraduated Specialization School in Hygiene and Technology of Milk and By-products Postgraduated Specialization School in Hygiene of Foodstuff of Animal Origin
- Postgraduated Specialization School in Technology and Pathology of Avian Species, Rabbit and Game.
- Postgraduated Specialization School in Physiopathology of Domestic Animal Reproduction.
- 1-year Master Course in Management, control, qualification and enhancement systems for the Mediterranean products (MED & FOOD)
- Research grants
- Post-doctoral

12.1.1 - CLINICAL SPECIALITY TRAINING (INTERN AND RESIDENT)

Postgraduated Specialization Schools

Five Specialization Schools are offered to the graduates in Veterinary Medicine by the Infectious Diseases and Food Hygiene Units of the Department of Veterinary Medicine and by the Section of Veterinary Clinics and Animal Production of the Department of the Emergencies and Organ Transplantation.
This post-graduated education is a fundamental training for the Veterinary graduated as the Italian law establishes as pre-requisite to attend the public competition for official veterinary posts in the National Sanitary System, the educational qualifications obtained by the attendance to a three-year Specialization School.
The Italian public sanitary institutions are organised in three functional specialized areas, the so called "area A", area B" and "area C" whose activity is consistent with the objective of Animal Health, Food Hygiene/Public Health and Farm and Animal Productions Hygiene subjects, respectively.
As shown in Table 12.1 the Specialization schools organised at the Vet-Campus deal with the subjects of all three sanitary areas thus providing the student with knowledge and skills required in clinical, food hygiene/public health and animal production professional fields that give the opportunity to the graduated to access to each of them.

Table 12.1 - Speciality trainings

SCHOOL	STUDENT ENROLLED n/year	TERM	DIPLOMA	ACCESS TO AREA
Infectious Diseases of Animals	25	3 year	Specialization diploma	A
Hygiene and Technology of Milk and By-products	25	3 year	Specialization diploma	B
Hygiene of Foodstuff of Animal Origin	25	3 year	Specialization diploma	B
Technology and Pathology of Avian Species, Rabbit and game	25	3 year	Specialization diploma	C
Physiopathology of Domestic Animal Reproduction	30	3 year	Specialization diploma	C

The Specialization Schools are instituted by the application of specific rules that are defined by D.R. 9742 (14 July 2008) that establishes the general framework of the schools in a similar way to that for the Degree courses.
They are regulated by a *numerus clausus* system and the applicants have to apply for an admission test. Evaluation and grading of the tests is used to draw up a ranking of the applicants and to regulate the admission. During the three-year term of the school a series of lectures and seminars held by teachers belonging to the teaching staff of the Veterinary Medicine Course and by a number of properly recruited external qualified teachers are offered to the students that are also engaged in intramural or extramural activities.
The attendance to the courses is compulsory. Students have to pass yearly the different subject exams and the last exams consist of the dissertation of a thesis structured as experimental or bibliographic scientific work and prepared under the supervision of a teacher in the specific scientific field.

Master Course in Management, control, qualification and enhancement systems for the Mediterranean products (MED & FOOD)

Med & Food is a II level Master coordinated by the Food Hygiene/Public Health of the Department of Veterinary Medicine (prof. Gaetano Celano) and organized by the University of Bari.
It is addressed to post-graduated students of Magistral Degree.
The aim of the Master is to prepare high-qualified professional figures with a multidisciplinary competence, with the specific aims herein after reported:

- to provide technical /legal support to the productive activities of industries;
- to promote and enhance the culture of an healthy Mediterranean diet and lifestyle;
- to ensure competition of the Mediterranean area companies on international markets by qualifying the production system giving an added value to their food production;
- to provide innovation and technology transfer improving agri-food and agri-environment research programs;
- to protect the products/services of SMEs with an high quality standard of Mediterranean food based on ethical principles of quality, innovation and agri-food and agri-environmental protection;
- to ensure the traceability of the food life cycle on the Mediterranean area;
- to educate consumers on the proper selection of food;
- to train peer/businessman in order to interact and optimize the economic system in the Mediterranean agri-food market .

Indicate whether students involved in this training receive a grant or a salary.

Students have to pay a tuition fee to enrol into the Schools and they do not receive grants or salary.

Indicate any programmes that are certified by the European Board of Veterinary Specializations.

Residency training in Veterinary Parasitology

The Unit the Parasitology of the Department of Veterinary Medicine is accredited for the residency training program of the European Veterinary Parasitology College (EVPC - Supervisor prof. Domenico Otranto) with an intense research activity on several subjects.
Currently, there are six EVPC residents supervised (first four), or co-supervised, by prof. Domenico Otranto:

- Dr. E. Brianti, University of Messina, researcher
- Dr. C. Cantacessi University of Cambridge, senior lecturer
- Dr. Alessio Giannelli University of Bari, PhD
- Dr. V. Lorusso University of Edimburg, PhD

- Dr. F. Latorre Novartis AH, Parasiticide manager
- Dr. C. Maia University of Lisboa reseacher
-

Grants or salary for residents are not available.
At the end of the training period, residents achieve the Diploma of the European College of Veterinary Parasitology, if successful in the final examination.

Beside prof. Domenico Otranto, one more member of the permanent staff of the Veterinary Medicine Course (dr. Paola Paradies) is EVPC diplomat.
Dr. Francesco Staffieri has just completed the residency training program of the European College of Veterinary Anaesthesia and Analgesia ACVAA and is waiting for sit the final exam.

Parasitological Summer School

Moreover the staff of the Unit of Parasitology organises every year, together with the European Veterinary Parasitology College (EVPC) a Parasitological Summer School (ParSCo). This is one-week long summer course on advanced level Veterinary Parasitology in order to give the opportunity to young parasitologists who had never dealt with certain groups of parasites present in the Mediterranean region, to become more familiar with them. This course aims to be as much practical as possible with only 30% of frontal lectures all focused to the collection, identification and management of the parasites, which will be studied under field conditions. Indeed, the aim of this course is to train people with interest in the field of parasitology mainly on the practical aspects of the discipline, and to give them an overview of the most important arthropod vectors of pathogens.

12.1.2 - RESEARCH EDUCATION PROGRAMMES

PhD Courses

The most of the Department of Veterinary Medicine teaching Staff constitutes the doctoral Course of Animal Health and Zoonosis. Other members of the teaching staff involved in the Veterinary Medicine Course are components of the Teaching Committee of doctoral courses that include research areas common to different course of study and therefore are constituted by researchers coming from disciplines other than veterinary (medicine, agronomy, biotechnology, ect.).
Whatever the doctoral course they belong, the number PhD student trained by the academic staff of the Veterinary Medicine Course at the Vet-Campus in 2013 is listed in Table 12.2.
In 2013 the organizational structure of doctoral courses on the University of Bari has been radically modified and starting from 2014, the Veterinary PhD education will be performed within three courses:
PhD course in Animal Health and Zoonosis
PhD course in Tissues and organs Transplantation
PhD course in Neuroscience and Translational Medicine

Table 12.2 - PhD students on training in 2013

PhD		Enrolling year		
		2011	2012	2013
Animal Health and Zoonosis	**Total number of students**	**7**	**5**	**5**
	Graduated in Veterinary Medicine	2	5	3
	Foreign students	-	2	1
Hygiene, Public Health and Food safety	**Total number**	**2**	**-**	**1**
	Graduated in Veterinary Medicine	2	-	1
	Foreign students	-	-	-
Biosciences and Methodology for Health	**Total number**	**4**	**-**	**2**
	Graduated in Veterinary Medicine	2	-	2
	Foreign students	-	-	-
Public Health and Veterinary and Animal Production Hygiene	**Total number**	-	**1**	-
	Graduated in Veterinary Medicine	-	-	-
	Foreign students	-	-	-
Fish and Fauna Animal Production	**Total number**	-	**2**	**2**
	Graduated in Veterinary Medicine	-	-	-
	Foreign students	-		
Experimental Surgical Sciences and Cell Therapies	**Total number**	-	**4**	**1**
	Graduated in Veterinary Medicine	-	4	1
	Foreign students	-	-	-
Anaesthesiology of Domestic Animals*	**Total number**	**2**	-	-
	Graduated in Veterinary Medicine	2	-	-
	Foreign students	-	-	-
	TOTAL	**15**	**13**	**10**
N° of PhD students in 2013 = 38				

The structure of the PhD course is organised and managed by a Teaching Committee, elected among the teaching staff of the Departments supporting the course and a Director of the School, elected among Teaching Committee members.
To be admitted to the PhD School, candidates must pass a public competition that takes usually place between October and November of each year. Once passed the competition, PhD students are enrolled for a period of three years starting on January 1st of the year following the examination. Public and private-funded positions are available annually. Furthermore a number of students that not exceed 50% of the total number of students enrolled each year can be admitted without grant. Usually, they are working students whose working activities must be compatible with the School teaching activities.
Most of the time of PhD students is devoted to a research project under the guidance of a supervisor and to attend learning activities, including short courses, lectures, seminars. In addition PhD students may also perform limited teaching activity (no more than 50 h) (see Chapter 9 - Admission and Enrolment).
The research project represents the product of the research education and results in the drafting of the PhD thesis. PhD students can spend as long as 18 months (half of their PhD course) in research institutions abroad as a part of their research education, and receive a 50% grant increase during.
Once a year doctoral students are bound to illustrate their activity in a written report. The Teaching Committee makes and assessment on each PhD students' activities based on which they are admitted to the following year. At the end of the third year, the Teaching Committee must approve both performance and scientific results of each PhD student for the admission to the final examination to be awarded by the title of PhD. The final examination is a thesis defence given in front of a Judging Commission independent from the Teaching Committee.

Research grants and Post-doc positions

Research grants and post-doc scholarship are advertised each year by the University of Bari. For Research grants co-founding have been provided by individual members of the academic staff with a financed project.
Candidates are enrolled by public selection based on scientific titles and an interview aiming to evaluate the expertise of the candidate in a specific research field. Duration of the majority of the research grants and post-doc positions is 24 month, renewable for further 2 years.
In table 12.3 the number research grants and post-doc position enrolled at the Vet-Campus in the last 3 years are quoted.

Table 12.3 - number research grants and post-doc position enrolled at the Vet-Campus in the last 3 years

TERM	RESEARCH GRANTS			POST-DOC		
	2011	2012	2013	2011	2012	2013
24 month	4	3	5	-	-	-
12 month	1	2	1	-	2	-
9 month	-	-	1	-	-	-
6 month	1	-	-	-	-	-

12.2 - COMMENTS

Comment on the number of post-graduate titles awarded annually

A significant number of Specialization Diploma are issued every years due to the large number of school working at the Vet-Campus.
The residence programs is low in number, therefore the number of residents awarding the European College Diploma is limited. One limiting factor to the improvement of this deficiency is the lack of public founding programs for this kind of education and the difficult to find private sponsor. Moreover the poor academic recognition to teacher for the resident supervision activity concurs to discourage to enter in EVBS programs. The number of PhD student awarded annually is in line with the incoming number of PhD student enrolled.

Comment on the percentage of veterinarians participating in postgraduate research training programmes

Despite the high tuition fees, post-graduated specialization school are much requested by the veterinary graduated since the title offers a good opportunity for the access to the labour market and it is mandatory for application to posts in the National Health System.
The PhD position, on the contrary is becoming more and more poor attractive for graduated in Veterinary Medicine as the title is very poor recognised by the public and private labour market. Public funds for grants are moreover considerably decreased in the last years and the lack of scholarships further discourages the enrolment at PhD course.

12.3 - SUGGESTIONS

At University and Departments level new strategies have to be embraced to find alternative founding sources other than from the Ministry to invest in post-graduate education. At National level actions like: the official recognition of the title of European Diplomat, a better recognition of the PhD title in occasion of competition for public posts and a better academic recognition for the time spent by the teacher supervisors in the training of postgraduated resident and PhD students, have to be taken.

13 CHAPTER
Research

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CHAPTER 13 - CURRICULUM

The details requested under this heading relate only to research experience offered to students during their undergraduate training, for example through project work.

The Italian research in the University and national research bodies is periodically evaluated (every 5 years) by MIUR (Ministry of Education, University and Research). The evaluation, handled by ANVUR (National Agency for Evaluation of University Research), is referred to as VQR (Program for Evaluation of the Research). The VQR evaluation program is fundamental for the universities, as funding by the government relies partially on VQR. About 8% of the 6,7 billions of Euros for functioning of the Universities will be distributed on the basis of VQR evaluations. In the last VQR (2004-2010), released in 2013, the scientific area 07 (agronomical and veterinarian sciences) of the University of Bari expressed a number of high-ranked scientific disciplinary sectors (SSD). The SSD VET/04 (Food Hygiene) and SSD VET/05 (Infectious Diseases) are included in the Veterinary Medicine area and were ranked #1 in their respective VQR rankings. This excellence has been recognized by the University of Bari, with 3/16 of the approved PhD programs for the next year (2014) being within the area 07 and one such PhD programs being activated in Veterinary Medicine. Some members of the teaching board of Veterinary Medicine also participate to other PhD programs, thus enlarging the post-graduation educational offers.
Starting from 2013 a series of new rules (MD47/2013 - see Chapter 5 - Teaching: quality and evaluation) finalized to promote a continuous monitoring and evaluation of the research quality of the Italian Universities, require the collection in a public on-line form annually updated (*Scheda Unica Annuale della Ricerca dei Dipartimenti* -SUA-RD) of the research results produced by the Departments. The outcome of this periodical evaluation will influence the evaluation of the Degree course, the parameters applied for the distribution of the public funding, the possible personal rewards or penalties for teachers, and so on.
The research activities in Veterinary Medicine are hindered by the limited number of human resources and, above all, by the Italian economical conjuncture that is decreasing the economical resources for the Universities. In this scenario, the Department of Veterinary Medicine and the other departments supporting the Veterinary Medicine course made strong efforts to maintain or increase the quality of the research. The research activities in the departments supporting the course of Veterinary Medicine are focused on four areas:
A – Diseases of animals and zoonoses
B – Food Hygiene
C – Animal productions
D – Surgical and clinical medicine

Research area A (diseases of animals and zoonosis) is focused on the study of viral, bacterial and parasite agents of small and large animals, with particular emphasis on zoonotic agents and vector-borne diseases. Members of DVM are leading experts involved in national and international collaborative study networks and research projects dealing with enteric viruses, hemoparasites and fungal infections.
Research area B (Food Hygiene) is recognized as a key research area in Veterinary Medicine. This research covers the aspects of prophylaxis of animal diseases transmissible to humans, the control of animal-derived food and the control of animal feed.
Research area C (Animal productions) is focused on the study of genetic polymorphisms in livestock animals and on innovative technologies for food production. In addition, an important

research topic is represented by animal reproduction, with the study of techniques for improving in vitro reproduction.
Research area D (Surgical and clinical medicine) covers the aspects of diagnostic imaging and innovative tools for therapy in surgical and clinical medicine, including cellular therapy for cartilage and bone tissues, pain therapy in animals, and the therapy of hemoparasite infections of small animals.
These research areas offer a broad range of choice for the students when they start preparing their thesis work, covering a large spectrum of topics that may stimulate their scientific interests.
Veterinary Medicine over the years has established several scientific and cultural collaborations. Also, Veterinary Medicine was able to attract visiting researchers and graduate students from a number of European and extra-European countries. During 2011-13 a total of 21 students and/or visiting researchers/professors from Algeria, Australia, Austria, Brazil, Bulgaria, England, France, Israel, Italy, Pakistan, Romania, Spain, Turkey and USA were enrolled in short-term research collaborations, visits and trainings (Table 13.1). The exchange of experiences, cultures and knowledge is surely a source of mutual benefits increasing the international vocation of Veterinary Medicine, promoting future exchanges and collaborations. This is regarded as a priority commitment by the staff of Veterinary Medicine.

Table 13.1 - Visiting students/researchers at the Vet Campus during the last three years

NAME	ORIGIN	PERIOD	YEAR	CONTACT	CONTRIBUTION*
Hernandez Martines Leticia	SPAIN	Jun	2011	Domenico Otranto	R
Guadalupe Mirò	SPAIN	Jun	2011	Domenico Otranto	T/R
Prof. Robin Gasser	AUSTRALIA	Apr	2011	Domenico Otranto	T/R
Yasen Mutafchiew	BULGARIA	Jan-Feb	2011	Domenico Otranto	R
Donatoni Agostinho Sabrina	BRASIL	Aug-Nov	2012	Nicola Decaro	R
Mila Hanna	FRANCE	Sept-Nov	2012	Nicola Decaro	R
Figueredo Pereira Vanessa	BRAZIL	Sept-Nov	2012	Domenico Otranto	R
Matallah Fauzi	ALGERIA	Jan	2012	Domenico Otranto	R
Prof Saif Linda	USA	Sept	2013	Vito Martella	D
Da Fontoura Budaszewsky Renata	BRAZIL	Jun	2012	Vito Martella	R
Escudero Pastor Elisa	SPAIN	May	2012	Giuseppe Crescenzo	T/R
Carrillo Pedro Marin	SPAIN	May	2012	Giuseppe Crescenzo	R
Joachim Anja	AUSTRIA	May	2012	Domenico Otranto	R
Baneth Gad	ISRAEL	Oct	2012	Domenico Otranto	R

Karayel Ilke	TURKEY	Sept-Dec	2012	Vito Martella	R
Nunes De Barros Iracema	BRAZIL	Jul-Oct	2013	Nicola Decaro	R
Altan Eda	TURKEY	May-Aug	2013	Vito Martella	R
Prof. João Pessoa Araújo Jr	BRAZIL	Nov	2013	Vito Martella	T/R
Campbell Bronwyn	AUSTRALIA		2013 -15	Domenico Otranto	R
Whittle Alice	UK	Oct-Dec	2013	Domenico Otranto	R
Ionica Angela Monica	ROMANIA	Oct-Jan	2013	Domenico Otranto	R

* R = research; T = teaching

13.1 - FACTUAL INFORMATION

Indicate the involvement of undergraduate students in research, including the time spent, percentage of students involved and outcome required.

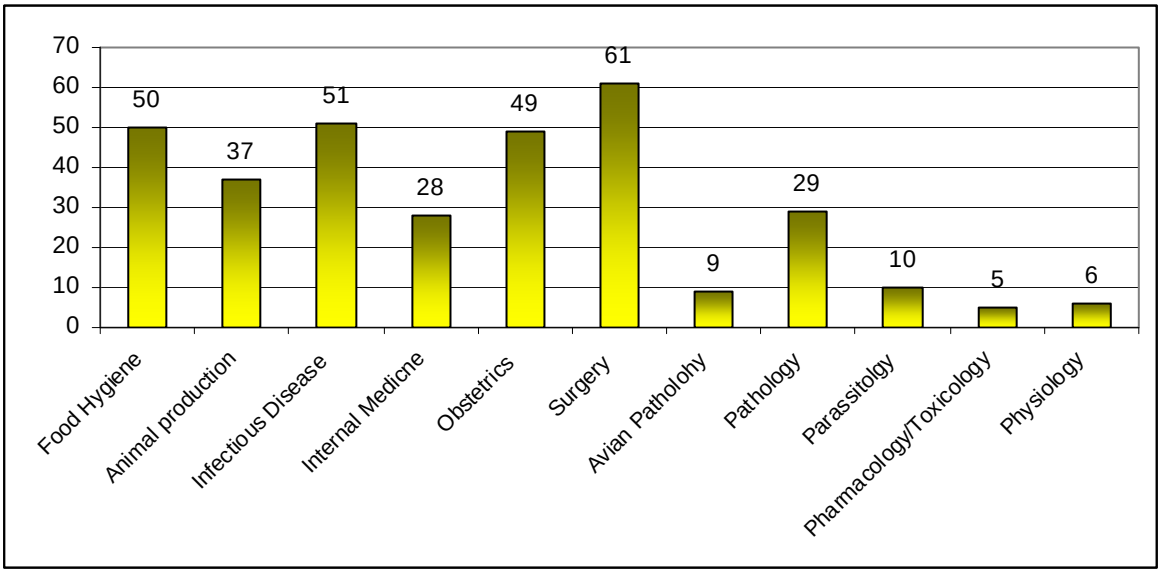
Specific research projects for undergraduate students are not part of the veterinary curriculum. However during their undergraduate studies, when starting their internship for preparation of the final dissertation, the students join a laboratory and are involved to some extent in specific research projects. The students may apply for internship with one of the member of the teaching board and are required to spend at least 225 hours spread over 2 years to go through their thesis work, in laboratory and practice activities. Although the majority of students start preparing the thesis in the 4th year of the course, when they have already developed an idea of the disciplines and subjects they are particularly interested in, the students are free to start their internship when they want. The internship period represents for students an introduction to research work and offers insights into the research areas of Veterinary Medicine. Students take advantage of the research areas/interests of the members of the educational/research staff to prepare their thesis. Although a student can select freely his tutor for the final thesis, thus selecting the research area of his thesis, the tutor is free to accept or reject the student's request, on the basis of the number of requests received and of his time schedules. Also, the tutor selects the specific tasks/projects of the thesis.

When preparing the final thesis, students have the option to prepare either an experimental thesis or a compilation thesis. An experimental thesis is usually more positively considered as this thesis provides students with the opportunity to be involved more directly in research projects they are interested in. By preparing an experimental thesis, the student will be requested to execute specific tasks in the laboratory/clinic under the supervision of the tutor, and to collect and analyze samples and data. Conversely, a compilation thesis is an updated literature review of a selected topic. A compilation thesis does not require experimental/practical activities. There is no difference in the final evaluation between an experimental and a compilation thesis. Generally the experimental thesis is perceived as more worthy and laudable, but it does not warrant extra-points of evaluation for the final dissertation. The vast majority (nearly 100%) of the students usually opt for an experimental thesis.

If a thesis is of particular relevance as the data gathered in the student's thesis are interesting, the data can be included in a scientific manuscript and submitted for publication and the student can be included as co-author of the study.

In figure 13.2 the number of theses from 2009 to 2013 and their distribution across the various areas of Veterinary Medicine are reported. Hygiene, Infectious Diseases and Surgical Clinic are the areas receiving more requests of thesis by the students.

Figure 13.2 - Number of theses from 2009 to 2013 and distribution across various areas of Veterinary Medicine



13.2 – COMMENTS

Comment on the opportunities for students to participate in active research work.

There is major commitment within the members of the teaching board of Veterinary Medicine Degree course to research, as this is an important prerequisite for the quality of teaching. Although there is not a specific requirement for research activity of students in their curriculum, students may receive several benefits from the results of the recent research in lectures, courses and clinical work. Also, during the preparation of the thesis, the students have the opportunity to be noted by the teachers on the basis of their skills and attitudes for research. Skilled students will have the possibilities to be enrolled, subsequently, in PhD programs and to initiate a research career.
During their final thesis preparation, students for the first time acquire experience on how to perform research activities and achieve capabilities on research laboratory practices as well as on the use of clinical devices and instruments. The period of preparation of the thesis represents also an important moment of educational guidance toward the profession when students acquire fundamental day-one skill.

In fact, although many of the students will not pursue a career in research, all of them will profit from their contact with active research work for their future professional life because during this training, the students will:

- learn to draft a written report on a given scientific topic.
- learn to approach the "knowledge" through an individual and independent approach and following the scientific methodology rules.
- acquire, by reading and synthesizing scientific data reported from the international bibliography the learning skills to deal with an independent study in the professional life.

- learn to organise/plan their own training through bibliographic research on databases and professional updating websites consultation.
- learn how to read objectively scientific articles through a proper knowledge of the English scientific language, pivotal for continual education of their profession.
- face problems of a specific professional area.
- obtain relevant information on the future professional pathways by the direct interaction with the tutor teacher.

Finally this contact with the research activities will motivate students and help them make a decision after graduation if pursuing a career different from the practice profession.
The distribution of the theses across the various areas of Veterinary Medicine (Fig. 13.2) may indicate that Hygiene, Infectious Diseases and Surgical Clinic are the areas receiving more requests by the students. Such condition entails that a large number of students receive additional and qualified training in this subjects besides the training/education offered by the curriculum This may reflect the fact that the Hygiene and Clinic areas perceived as richer of job opportunities offered by the market, either in the Public Health system or in private clinic structures.

There is a strong commitment of the Department of Veterinary Medicine and other Departments supporting Veterinary Medicine Degree Course to improve the research level and a specific research committee for research was established at the early in 2013 (see Chapter 2 - Organisation) . The committee established some priority tasks for the Veterinary Medicine Department to improve the research level and results, in spite of the limited budget resources deriving from the economic conjuncture and considering the limits of human resources. Strengthening internal and external collaborations was individuated as a good strategy. As stated previously, improving all the research areas of DVM will increase the quality of teaching and will be beneficial for the students.

13.3 - SUGGESTIONS

Will students be given more opportunity to participate in research activities? If so, how will this be done?

As previously said, the Veterinary Medicine Course offers various opportunities to the students to attend research laboratories, clinical facilities in internal and also in external structures for the activities related to the thesis preparation. However involvement of students in research activities besides that related to the thesis work is generally low. This is accounted for by the heavy workload the students are subject to during the last years of the study career. This does no allow the students to include the research among their priorities. The research efforts of the staff of Veterinary Medicine Degree Course have been addressed to the development of a post-graduate offer of education programs. These efforts have been awarded by the University of Bari with the activation of a specific PhD program. Also, students may apply for other PhD programs activated in other departments that support the Veterinary Medicine Course, thus enlarging the educational offer. The possibility to initiate a research career by applying to a PhD program will surely stimulate the curiosity and enthusiasm of skilled students with a particular attitude for research, as they will be aware that there are good opportunities to continue their education and to enter the world of research. Also, the possibility to interact with graduate students enrolled in PhD programs will be beneficial for the students, in order to understand better the positive and negative aspects of a research-dedicated career.