PANEL REPORT

THE FACULTY OF VETERINARY MEDICINE OF THE UNIVERSITY GHENT

Report adopted by the Education Committee of the European Association of Establishments for Veterinary Education (EAEVE) and the Federation of Veterinarians of Europe (FVE) on 6 November 2004

EUROPEAN SYSTEM OF EVALUATION OF VETERINARY TRAINING

30 November 2004

REPORT ON THE VISIT TO THE FACULTY OF VETERINARY MEDICINE OF GHENT

23 - 29 February 2004

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EXPERT GROUP

Prof. P.F. Jorgensen (Denmark)
Expert visitor on training in basic sciences

Prof. S. Kyriakis (Greece)
Chairman and expert visitor on training in clinical sciences

Dr. R. Eddy (United Kingdom)
Expert visitor on training in clinical sciences

Dr. C. Pahlitzch (Germany)
Expert visitor on training in animal production

Dr. T. Berthe (France)
Expert visitor on training in food hygiene

Dr. S.T. Allman
EAEVE Programme Coordinator

Mrs. S. Green
EAEVE Rapporteur

INTRODUCTION

The Faculty of Veterinary Medicine of Ghent, (FVMG) was visited by a team from the European System of Evaluation of Veterinary Training from 23 - 29 February 2004. During the visit, the team visited the facilities, looked at the teaching resources that were available to the Faculty, and had discussions with academic and support staff, students, alumni and local practitioners, as well as several meetings with the Dean, Heads of Departments and other staff from the Faculty. The visiting experts also met with the Rector of Ghent University, Prof.dr. De Leenheer and the Vice-Rector, Prof.dr. De Clercq.

This was the second evaluation of the Faculty, the first having taken place in 1992.

The School of Veterinary Medicine at Ghent University was founded in 1933. It first functioned as "School of Veterinary Medicine" and was part of the Faculty of Medicine. In 1968, it became a separate faculty (Faculty of Veterinary Medicine, FVMG) within the University, and now it is one of the 11 faculties at the University of Ghent.

The FVMG is the only veterinary faculty in the Flemish speaking region of Belgium (appro ximately 6 million inhabitants) which is allowed to award the diploma of "Veterinarian" (dierenarts), although there is cooperation with the University of Antwerp (also located in Flanders) where a first cycle of the veterinary studies (year 1, 2 and 3) can also be followed. There is a further veterinary faculty in Liège, in the French speaking region of Belgium. There is no national Belgian minimum veterinary curriculum and the Ghent Faculty is therefore autonomous with regards to its curriculum.

Approximately two months prior to the visit the experts received a comprehensive Self-Evaluation Report (SER) and the supporting documentation, which had been prepared by the Heads of Departments, the Dean and other members of staff.

Prior to the visit, each expert was assigned specific chapters of the SER related to his particular area of expertise to study and evaluate in greater detail. Further information relating to each of the chapters was obtained during the visit itself but this was of a minor nature. The SER and its annexes gave the team a clear and accurate description of the Faculty.

Evaluation visits represent a 'snapshot' of the situation at the time of the visit. Establishments often respond rapidly and positively to comments and suggestions, even before the report is issued but any changes made after the visit will not be reflected in this text.

Evaluation visits involve a great deal of work for all concerned - academic staff, support staff, and students. The team of experts is most grateful for the open and friendly way in which it was received throughout the visit. The experts are particularly grateful to the Dean, Prof. Aart de Kruif, and his team and also to the Liaison officer, Prof. De Moor, for the substantial help that they gave before and during the evaluation visit.

1. OBJECTIVES

1.1 Findings

The main objective of the FVMG is to provide both a scientific academic education and a professional training to veterinary students, offering the skills and attitudes that graduated veterinarians need in order to easily adapt their services to the fast changing demands of society. These services include the medical care of animals, veterinary public health control as well as research in all medicine and animal welfare related fields.

The Faculty presents objectives for each of the two three-year cycles that make up the veterinary course.

The aim of the first cycle of veterinary medicine at the FVMG is for students to develop knowledge, skills and attitudes in order to smoothly continue the second cycle. This includes a basic knowledge in biomedical sciences, a specific insight in the structure and function of the domestic animals and a specific knowledge of pathogens and/or zoonotic agents. This also includes the ability to independently gather information and scientific data and the competence to critically review data in relation to scientific, social and ethical relevance.

In the second cycle the FVMG aims at delivering academically qualified people with sufficient professional knowledge to act successfully as veterinarians in addition to the ability to develop a career in every domain linked to biomedical science.

Consequently, for the FVMG, the prime skills of a graduate in veterinary medicine are a thorough knowledge of veterinary medicine in its broadest sense and an analytical mind.

Along with the overall statement of the objectives for the two cycles of the veterinary degree, the FVMG also indicates the knowledge and insight it expects students to have at each stage as well as the skills they should have acquired.

Besides the training of veterinarians, the FVMG offers a wide variety of post academic training and education as well as being involved in providing services to outside bodies, including laboratory diagnoses, BSE testing, detection of hormones, taking care of patients, performing postmortem examination and herd health.

The Faculty believes that the move to the new campus and the structured revision of the curriculum have established good conditions for achieving its objectives for undergraduate training. However, the high number of students enrolled and the use of student numbers as the basis for funding, often makes attaining these goals a challenge.

The FVMG is also aware of the difficulties of maintaining knowledge levels, in view of the ever-expanding amount of information and the new obligations placed on veterinarians by national or international policies and legislation.

1.2 Comments

The visiting team was pleased to note that the Faculty has such comprehensive objectives and that they adequately cover all faculty education, research and service provision. However, the Faculty should also develop a means of monitoring and measuring its objectives so that there is more clarity as to whether or not they are being achieved.

It is particularly commendably that the efforts of the Faculty are first and foremost directed towards undergraduate education and not simply towards research. This is demonstrated by the promotion structure for staff, where promotion is based on teaching evaluation in addition to research (see Chapter 10).

The strengths and weaknesses of the Faculty should have been mentioned in the SER.

As strengths, the team considers that the Faculty should have mentioned:

- the size and favourable location of the Faculty;

- the good condition of the buildings;
- the space available for teaching and research;
- the quality of the equipment in all departments;
- the high standard of the laboratories;
- the amount of equipment provided;
- the Faculty's autonomy and flexibility as regards its curriculum;
- a steady source of animals for teaching purposes, with adequate numbers and a good variety of species.

As weaknesses, the team considers that the Faculty should have mentioned:

- the excessive and fluctuating number of students;
- the high drop-out rate from the course;
- the uncertainties caused by having to accept students who have had three years of teaching in basic sciences at Antwerp, whose curriculum is not under the control of the Faculty;
- the inability to access the scientific education of students prior to starting the veterinary course.

1.3 Suggestions

1.1 There should be a means of measuring and monitoring the Faculty's objectives so that they can be updated if necessary.

2. ORGANISATION

2.1 Findings

The FVMG is one of the 11 faculties of Ghent University, which falls under the responsibility of the Ministry of Education of the Flemish Government, who controls the financial management of the University. Therefore, although the University can make decisions independently, they must be in accordance with the university decree and the University is supervised by both a Government Commissioner and a Government Financial Controller on a daily basis.

Ghent University is considerably decentralised. The faculties and departments can institute their own human resource and investment plans as long as these remain within the budget assigned by the University.

The University is headed by a Rector, a Vice-Rector and 2 administrators, who govern the University together with the Board of Directors. The University Board of Directors meets monthly and is chaired by the Rector, assisted by the Vice-Rector and further composed of 12 professors, (from each faculty and elected by their faculty for a period of four years), 3 representatives of the non-professorial (scientific assistant) personnel, 3 representatives of the technical staff, 4 representatives of the student body and 10 members from outside the university (employers, unions and politicians).

The Executive Committee is the body which is responsible for the everyday functioning of the University. It consists of the Rector, the Vice-Rector, 2 administrators, 2 full professors, one representative of the assistants, one of the technical staff and 2 members from outside the University. This committee meets every two weeks.

The Veterinary Faculty is headed by a Dean, who has to be a full professor. He is elected by the Faculty Council for a two year renewable period and has to receive at least 2/3 of the votes of all members of the Faculty Council.

The main decision-taking body of the FVMG is the Faculty Council, which meets monthly. The Faculty Council consists of all ordinary and full professors, 3 elected representatives of the associate professors and assistant professors, 2 elected representatives of the assistants, 2 elected representatives of the non-academic (administrative and technical) staff and 5 elected representatives of the student body.

The Faculty Council is assisted by various advisory committees, which prepare proposals for ratification. The most important committees are the Curriculum Committee and the Research Committee. These committees may be chaired by the Dean or by a professor.

Curriculum Committees were installed in each faculty in Ghent University in 1992. The Curriculum Committee is a permanent advisory committee, responsible for determining the aims, contents and teaching methods of the curriculum. It is composed of representatives of the academic staff (10 professors and 1 assistant) and five students and gives advice on the curriculum (courses, study time and credits), supervises teaching and examination methods for each course and, in addition, it discusses all educational items suggested by the students or staff members. In addition, the Curriculum Committee discusses possible educational innovations and revisions and devises course programmes that are then submitted to the Faculty Council for approval.

The Research Committee is composed of one representative from each department (mostly professors or post-doctoral assistants) and one assistant. It gives advice on how to allocate the research budget and how to stimulate research.

The FVMG has 12 departments, the number having been reduced from 13 since the last evaluation visit:

- Department of Physiology, Biochemistry and Biometry (DI01);
- Department of Pharmacology, Pharmacy and Toxicology (DI02);
- Department of Morphology (DI03);
- Department of Virology, Parasitology and Immunology (DI04);
- Department of Pathology, Bacteriology and Poultry Diseases (DI05);

- Department of Veterinary Public Health (DI06);
- Department of Animal Nutrition, Genetics, Breeding and Ethology (DI07);
- Department of Obstetrics, Reproduction and Herd Health (DI08);
- Department of Medicine and Clinical Biology of Small Animals (DI09);
- Department of Surgery and Anaesthesiology of Domestic Animals (DI10);
- Department of Medical Imaging of Domestic Animals (DI11);
- Department of Internal Medicine and Clinical Biology of Large Animals (DI12).

Each department has a head who is elected within the department for a renewable period of 4 years. This decision must be approved by a representative group of students. The department head fulfils his duties along with his other teaching, research and service duties. The department head is assisted by the department board, which is composed of all the professors belonging to the department, a representative of non-professorial academic personnel (assistants) and representatives of the technical personnel.

Department heads regularly meet with the Dean for discussing and preparing matters such as budgeting and allocation of personnel (academic points) in the faculty, within the scope of a management plan.

2.2 Comments

The Faculty seems well represented in University policy and the visiting team is particularly impressed with the flexibility and autonomy that the Faculty has in governing itself. Furthermore, all groups are adequately represented within the Faculty structure.

The University and Faculty bodies seem to work well together and there is good communication between them.

The visiting team was pleased to note that the number of departments has been reduced since the last visit but believes that this needs to go further. The current structure of the Faculty is along discipline rather than species lines. Reducing the number of departments would facilitate decision-making at a Faculty level, reduce the time spent on administration by each department and also free up space and equipment. Furthermore, the more efficient use of staff time would release the additional teaching hours necessary for the development of Problem Based Learning (PBL).

In particular, the structure of the clinical departments should be rearranged in order to release space, in particular to the advantage of the small animal clinic, which has reached capacity. The team suggests:

- a single clinic for small animal medicine, obstetrics and surgery, exotic animals, wild animals, zoo animals and pet birds;
- a single clinic for equines;
- a single clinic for production animals, including commercial poultry and rabbits;
- two supporting disciplines of diagnostic imaging and anaesthesia (including intensive care).

Furthermore, there should be one single diagnostic laboratory, rather than several small laboratories.

This restructuring is further discussed in section 4.4 and section 6.2.

2.3 Suggestions

2.1 The clinical departments should be restructured so that both space and teaching time can be released to the advantage of the small animal clinic and the development of Problem Based Learning.

3. FINANCES

3.1 Findings

Ghent University is controlled by the Flemish government. The government provides nearly 74% of the funding for education and research. The remaining 26% is obtained from the private sector (15%) and international organisations, enrolment fees, examination fees and real estate income (11%).

The main government funding is used for staff costs (see also chapter 10) and general costs. The remaining money is divided among the eleven University faculties by the University Board of Directors, using the same allocation model used for allocation of staff.

For the first cycle, i.e. years 1, 2 and 3, veterinary training receives the same budget weighting as students from other biomedical studies e.g. human medicine. For the second cycle, i.e. years 4, 5 and 6, it receives a double budget weighting compared to other disciplines.

Table 3.1: Income of the establishment

Source	Direct	Indirect	€	%
revenue from State or public authorities	971752	9471970	10443722	46.93
revenue from private bodies	1015408		1015408	4.56
revenue from research	3455705		3455705	15.53
revenue earned and retained by the FVMG	6270045	1017209	7287254	32.75
- *registration fees from students*			*0*	0
- *from continuing education*	*281715*		*281715*	*1.27*
- *from clinical and diagnostic work*	*5988330*		*5988330*	*26.91*
revenue from other sources	52175		52175	0.23
Total			14883694	100

Table 3.2: Expenditure of the establishment

Source	€	%
Salaries	13191200	59.68
- teaching staff	4947010	22.38
- support staff	3281071	14.84
- research staff	2978156	13.47
- hospital staff	1984963	8.98
Operating costs	6578666	29.76
- specific to teaching	679305	3.07
- specific to research	1153235	5.22
- clinical/diagnostic expenditure	3658048	16.55
- general operations	656091	2.97
- utilities	431987	1.95
Equipment	1315994	5.95
- research	609203	2.76
- clinical/diagnostic work	453537	2.05
- teaching & general	253254	1.15
Maintenance of buildings	1017209	4.6
Total	22103069	100

	€
Annual direct cost of training a student	7162
Total direct cost of training a graduate	48630

Basis of calculation: items totalling 9,160,640 EUR with 1279 undergraduates, 6.79 average duration of studies

However, these costs are an understatement because they do not take account of the cost of teaching given to veterinary students at Ghent University itself, in physics, chemistry, zoology and botany. This teaching is paid for by the University and constitutes approximately 64% of the total teaching hours in the first year of the first cycle of the veterinary course. Furthermore, many research staff undertake small amounts of regular teaching at the Faculty (10-15% of their time).

For the internal allocation of the revenue from the State or public authorities, the Faculty has its own allocation model. Overall the Faculty has to pay an overhead of 12% to the University and after deduction of the general costs, the allocation of money is based on the number of staff working in each department. Non-clinical departments receive more for each staff member than clinical departments.

While the construction of the new campus was paid for by the Flemish Government, all additional building and maintenance work is the responsibility of the University. For new premises, Faculty proposals need to be approved by the University Building Committee and Executive Committee. This requires a lot of planning and lobbying on behalf of the Faculty.

Major items of equipment are purchased through revenue from the State, research, clinical activities or other community services but the FVMG has recently had to use a substantial amount of its own revenues for financing the routine cleaning of the clinical buildings.

Revenues obtained from other resources are retained by each department.

Students pay a moderate registration fee of between € 80 and € 488 annually, depending on whether or not the student has obtained a means-tested grant from the Flemish Government. Students who are on the border of having to pay the fees, pay a registration fee of € 275. The entire registration fee goes to the University.

The University Board annually awards academic ‘points’ to Faculties (see also chapter 10). For staffing, academic ‘points’ are awarded on the basis of a key system based upon the numbers of students, course load and research accomplishments

The FVMG considers that specialist training of postgraduate and postdoctoral students lacks funding, and that practical and clinical training of the students is also under-resourced.

The FVMG does however, appreciate the governmental and University grants that were recently obtained for innovating e-learning programmes.

A major cause of concern is the sharp reduction of general public funding of research projects, equipment and infrastructure in recent years in Belgium.

The FVMG is pleased with its autonomy, as well as with the consensual departmental allocation model.

3.2 Comments

The high level of financial autonomy given to the Faculty is commendable and overheads of 12% is considered to be very good but the estimated cost of training a student appears to be rather low.

Although the team recognise that the political structure within Flanders prevents the University and FVMG from

setting entrance examinations or setting a numerous clausus, the high drop-out rate during the first year of studies is considered to be a waste of both teaching and material resources, causing difficulties for professors and for room allocation. In addition, the fluctuating number of students each year does not facilitate the preparation of a faculty nor a departmental budget.

Further funding will be needed for additional staff and facilities if the faculty is to develop new disciplines and Problem Based Learning.

The Faculty relies quite heavily on outside funding raised by clinical and diagnostic services and by research.

3.3 Suggestions

3.1 The Faculty should have a plan for financing its intended future developments in teaching and services. Additional staff and facilities will be needed to develop certain specialisations and to introduce Problem Based Learning.

4. CURRICULUM

4.1 GENERAL ASPECTS

4.1.1 Findings

The study duration in Veterinary Medicine at the FVMG is 6 years, comprising two cycles of three years. The average duration of studies is 6.79 years.

At present, all except the first year of the course (which is organised in a two semester system) is run on an annual basis. However, starting from 2004-2005 onwards, the semester system will be introduced in the second and subsequent years of the curriculum, except in the final year.

One semester will comprise 13 weeks of lectures and practical work followed by two weeks of study leave and an examination period of two weeks.

The first cycle of the veterinary studies (year 1, 2 and 3) in Flanders can also be followed at the University of Antwerp (also located in Flanders, 50 km away from Ghent). All students who have performed their first cycle studies in Antwerp are Flemish or Dutch speaking and will join the FVMG at Ghent for the second cycle (clinical training) in order to obtain a veterinary diploma.

Table 4.1: Summary of total "common" hours in each year of the present course

year	course hours					ratio of lectures to other types of work	average weekly hours
	lectures	practical work	supervised work	clinical work	total		
First	360	53	44.5		457.5	1:0.27	15.25
Second	405	189.5	50.5		645	1:0.59	21.5
Third	405	218.5	21.5		645	1:0.59	21.5
Fourth	430.5	70	89.5	85	675	1:0.57	22.5
Fifth	465	5	30	232.5	732.5	1:0.58	24.42
Sixth	60		22,5			1:0.58	2.75
Total	2125.5	536	258.5	317.5	3155	1:0.52	17.98

The ratio of theoretical training to practical and clinical training is approximately 1:0.52 (2141.5:1104).

The ratio of clinical training to theoretical and practical training is approximately 1:9.2 (317.5:2928).

These ratios would normally be considered unacceptable but they are an incorrect picture in that they do not include the sixth year of practical/clinical work.

Allocation of hours between the various subjects and the balance between theoretical and practical training are thoroughly discussed by the Curriculum Committee (see Chapters 2 and 5). They take into consideration the new evolutions in the veterinary profession, the opinion of the students from the annual surveys, organised by the University and assessed by the Education Quality Cell of the Faculty (see Section 5.1), in addition to the opinion of academic staff members with expertise in the new subjects. After a consensus is reached within the Curriculum Committee, proposals are submitted for approval to the Faculty Council and then to the Board of Directors of the University for official acceptance.

The last major revision of the veterinary curriculum changed all courses in all 6 years. Its phasing-in was started in 1992, and completed in 1997. In the new curriculum, animal species related "options" (called "opties" in Flemish) were introduced in the final year and an obligatory "end of study" thesis was introduced for every final year student.

The final year of study is predominantly free of lectures. Students make a choice between five "options" (see Section 4.6); 'companion animals', 'equine', 'ruminants', 'pigs, poultry and rabbits' or 'research & industry'. Only two courses during this year (part II of Veterinary Public Health and veterinary legislation and deontology) are followed by all students; both have a theoretical component.

A major revision of the second cycle is planned for the future so that the species related "options" will be introduced after four and a half years of study, instead of after 5 years as it is now. The students will still have a common training during the 3 preclinical years, the fourth year and the first semester of the fifth year. In the second semester of the fifth year they will have to choose between two major tracks: companion animal medicine or large animal medicine, including veterinary public health.

This innovation would reduce the study load and it would simultaneously increase the starting competence of the graduating veterinarians, with more advanced training during the fifth and sixth year in either track. In the final year, students will further focus on one of the 5 options mentioned above and for most students, this year will be lecture-free, with the exception being those students taking the "Research" option, who will still have some theoretical courses.

Tables 4.1 – 4.3 summarise the subject hours of the present curriculum from the first to fifth year, in addition the two general courses that are taught to all 6th year students.

Table 4.2: Teaching hours in EC subjects (common 5-year 'trunk' with core options included)

	lectures	practical work	supervised work	clinical work	total
A. BASIC SUBJECTS	1190.5	441	118.5	12	1762
Anatomy (including histology and embryology)	277.5	233	7		517.5
Biochemistry	90	15	7.5		112.5
Biology (incl. cell biology)	85	22.5			107.5
Biophysics	52.5		7		59.5
Biostatistics	15		5		20
Chemistry	112.5	8	22		142.5
Epidemiology	7.5		10		17.5
Genetics	82.5				82.5
Immunology	35	22.5			57.5
Microbiology	48.5	33.5	4		86
Parasitology	30	15			45
Pathological anatomy (macroscopic and microscopic)	97.5	65	10	12	184.5
Pharmacology	60	10			70
Pharmacy	15				15
Physiology	135	16.5	43.5		195
Physiopathology	22.5				22.5
Scientific and technical information and documentation methods	7.5		2.5		10
Toxicology (inc. environmental pollution)	15				15
B. Animal production	221.5	5	17.5	16	260
Agronomy	2				2
Animal behaviour (inc. behaviour disorders)	20			20	
Animal husbandry (inc. livestock production systems)	40.5				40.5
Animal nutrition and feeding	60	5	14.5		79.5
Animal protection and welfare	18				18
Environmental protection	5				5
Preventive veterinary medicine (inc. health monitoring programmes)	43				43

Reproduction (inc. artificial breeding methods)	15.5		3	16	34.5
Rural economics	17.5				17.5
C. Clinical subjects	566	45	92	289.5	992.5
Anaesthesiology	15			5	20
Clinical examination and diagnosis and laboratory diagnostic methods	78	30	45	3	156
Clinical medicine	189.5	10	32.5	60	292
Diagnostic imaging	22.5			35	57.5
Obstetrics	32	5	4	27	68
Reproductive disorders	17		3	16.5	36.5
State vet. medicine, zoonoses, public health and forensic medicine	27				27
Surgery	142.5			115	257.5
Therapeutics	42.5		7.5	28	78
D. Food hygiene	114.5	45	22.5	0	182
Certification of food production units	5				5
Food certification	5				5
Food hygiene and food quality (inc. legislation)	20				20
Food inspection, particularly food of animal origin	30		22.5		52.5
Food science and technology	54.5	45			99.5
E. Professional knowledge	40	0	0	0	40
Practice management					0
Professional ethics	7.5				7.5
Veterinary certification and report writing					0
Veterinary legislation	32.5				32.5

Table 4.3: Distribution of practical and theoretical teaching in EEC subjects

	hours in course					percentage of total course hours	ratio of lectures to other types of work
	lectures	practical work	supervised work	clinical work	total		
Basic subjects	1189.5	441	118.5	12	1761	54.3	1:0.48
Animal production	221.5	5	17.5	16	260	8.0	1:0.17
Clinical subjects	566	45	92	289.5	992.5	30.6	1:0.75
Food hygiene and technology	114.5	45	22.5		182	5.6	1:0.59
Professional knowledge	40				40	1.5	1:0
Total	2131.5	536	250.5	317.5	3235.5	100	1:0.52

In addition to the core course and “option”, each final year student has to choose a number of additional elective (free choice) subjects to complete the undergraduate training. These amount to a total of 9 Credits, except for those students who follow the elective track “Research & Industry”, who have to take 21 Credits of electives courses.

Elective Courses	Hours in course					
	Lectures	Practical work	Supervised work	Clinical work	Other	
Introduction Training and Completions in the Medicine of Pets				100,0	45,0	
Introduction Training and Completions in the Medicine of the Horse			10,0	90,0	45,0	
Introduction Training and Completions in the Medicine of Ruminants			10,0	90,0	45,0	

Clinical Options Pets	67,5			60,0		
Clinical Options Horse	52,5			80,0		
Clinical Options Ruminants	52,5			60,0		
Clinical Options Pig and Industrial Poultry	40,0	10,0	10,0	40,0		
Clinical Options Birds, Special Animals and Laboratory Animals	43,5	10,0		50,0		
Infections and Pathology of Pets	15,0		22,0			
Ethology, Feeding and Breeding Assistance of Pets	15,0		10,5	4,5		
Infections and Pathology of the Horse	7,5	30,0	15,0			
Ethology, Feeding and Breeding Assistance of the Horse	15,0	7,0	8,0			
Infections and Pathology of Ruminants	15,0	35,0	10,0			
Animal Production and Ethology of Ruminants	22,5	15,0				
Infections and Pathology of Pig, Poultry and Rabbit	15,0	30,0	15,0			
Animal Production and Ethology of Pig, Poultry and Rabbit	15,0		15,0			
Tropical Veterinary Medicine	20,0	10,0				
Veterinary Hygiene	15,0					
Laboratory Animal Science	22,5	5,0		5,0		
General Didactics	20,0		10,0			
Teaching Methodology	30,0					
Educative Interaction and Communication	15,0	15,0				
One ore Two Subjects from the Programmes of the UGent for 3, 6 or 9 credits						
Scientific English	22,5					
Quality Systems in Animal Production	22,5					
Applied Biomedical Statistics	15,0		15,0			
Methodology of Animal Experimental Research	22,5		10,0			

Attendance at all demonstrations, supervised practical and clinical activities, both obligatory and elective, is mandatory for all courses. A continuous evaluation examination system makes it possible to give insufficiency marks for repeated absences. (see also section 5.2).

In the academic year 2000-2001, an extramural practical period was institutionalised. Within the framework of the three elective subjects “Introduction training and completions in the medicine of pets”, “Introduction training and completions in the medicine of the horse” and “Introduction training and completions in the medicine of ruminants”, an extramural practical training period was included inorder to familiarise students with veterinary practice.

The Faculty considers that the absence of student entrance limitations (see Chapter 9), causes a high number of students and thus puts a strain on the teaching staff, in particular with regards to organising practical and clinical training for undergraduates.

4.1.2 Comments

The prospective curriculum changes have the advantage of maintaining an omnicompetent training in most subjects listed in EAEVE requirements and therefore the common study programme of 4.5 years should guarantee an omnivalent diploma. However, this will mean that students will have to make career choices after 4 years of studies, i.e. one year earlier than before and that graduated veterinarians with different competencies may find their

prospects of practicing in other electives rather limited. Furthermore, the proposed new curriculum for 2005 may result in insufficient exposure to both small animal and large animal teaching in the important clinical areas in the 4.5 years before the "options" are started (see also section 4.4.2).

To overcome this potential problem, the visiting team strongly advises that some of the subjects currently taught in the second cycle are taught in the first cycle of the course as this will result in a more integrated curriculum. Animal handling and management, basic principles of surgery and diagnostic imaging are subject areas which need to be considered for such integration and which will allow more time for the teaching of the clinical subjects in the first three semesters of the second cycle.

There are no lessons in basic economics, practice management or communication skills and the implementation of these would be of benefit to both students and the public.

In the meeting with the representatives of the alumni and veterinary profession the team heard that there is hardly any input from the profession on the curriculum. Other conversations with members of the FVMG staff confirmed that although there may be discussion on the curriculum and education, the process was not structured.

Some of the imbalance in the present curriculum and training is discussed in more detail in other sections of this report but the main areas include the ratio between theory and practicals, the lack of animal handling at an early stage of the course, the excessive number of hours given to anatomy and the limited number of teaching hours in small animal medicine.

The ratios of theoretical training/practical and clinical training is unacceptable for Basic Subjects, Animal production, Food Hygiene and Technology. It is also unsatisfactory for the Clinical Subjects (Table 4.3) when taken as hours in EEC subjects. However, if the hours of the "options" are included, then the ratio of theoretical training/practical and clinical training and the ratio clinical training/theoretical and practical training is satisfactory except for the option "Research and Industry", where both ratios are unsatisfactory.

The visitors heard, on a number of occasions, about the students lack of experience of handling and management of animals of all species by the time they entered the 2nd cycle. This could be addressed by introducing an obligatory period of EMS on animal establishments e.g. farms, kennels, stables or at an abattoir during the 2nd or 3rd year.

There is also a lack of vertical integration between the basic sciences teaching in the first cycle and the practical and clinical training in the second cycle (see also section 4.2.2).

4.1.3 Suggestions

4.1 Lessons in basic economics, practice management and communication skills should be considered.

4.2 A more structured approach to curriculum development should be considered, with the involvement of both FVMG staff and the veterinary profession.

4.3 Lessons in quality assurance and quality management systems should be considered in order to give the students a basic knowledge of working with these systems either in practice/clinic (GVP), laboratories (GLP) or in the field of food safety (HACCP).

4.4 Basic animal handling should be taught in the second year of the first cycle, together with an obligatory period of EMS. Leaving animal handling until the fourth year is considered to be too late (see also suggestion 4.9 and 5.2).

4.5 The team suggest that a group is formed for regular discussion of the curriculum and that it includes representatives from FVMG, the veterinary profession and employers of veterinarians.

4.6 There should be improved integration between the basic and clinical subjects (see also suggestion 4.8)

4.2 BASIC SUBJECTS AND BASIC SCIENCES

4.2.1 Findings

The following departments give teaching in basic subjects:

Department of Physiology, Biochemistry and Biometry (DI01),
Department of Pharmacology, Pharmacy and Toxicology (DI02),
Department of Morphology (DI03),
Department of Virology, Parasitology and Immunology (DI04),
Department of Pathology, Bacteriology and Poultry Diseases (DI05),
Department of Veterinary Public Health (DI06),
Department of Animal Nutrition, Genetics, Breeding and Ethology (DI07),

The curriculum hours in the basic subjects taught to veterinary students are shown in Table 4.5. The attribution of these hours according to the 'EEC' subjects is shown in Table 4.1.

Table 4.5: Number of teaching hours in basic subjects

Subject	year	Hours in course				Ratio of lectures to other types of work
		lectures	practical work	supervised work	total	
Physics I & II	1	52.5		15	67.5	1:0.29
General chemistry I & II	1	52.5	8	7	67.5	1:0.29
Organic chemistry	1	60		15	75	1:0.25
General histology	1	45	22.5		67.5	1:0.5
Zoology	1	45	22.5		67.5	1:0.5
Botany	1	15			15	1:0
Biomedical informatics & statistics	1	22.5		7.5	30	1:0.33
Applied analytical chemistry	2	22.5	30		52.5	1:1.33
General anatomy	2	90	67.5		157.5	1:0.75
Microscopic anatomy	2	45	45		90	1:1
Embryology	2	30	8	7	45	1:0.5
Biochemistry	2	90	15	7.5	112.5	1:0.25
Physiology	2,3	135	16.5	43.5	195	1:0.44
Clinical & applied anatomy	3	67.5	90		157.5	1:1.33
Molecular and general genetics	3	67.5			67.5	1:0
Immunology	3	22.5	22.5		45	1:1
Bacteriology & mycology	3	30	15		45	1:0.5
Virology	3	22.5	11	4	37.5	1:0.67
Parasitology	3	30	15		45	1:05
General pathology	3	45	45		90	1:1
Pathological physiology & biochemistry	3	22.5			22.5	1:0
Parasitic diseases	4	45	10		55	1:0.22
Viral diseases	4	45			45	1:0
Bacterial and mycotic diseases	4	45			45	1:0
Pharmacology	4	60	10		70	1:0.17
Special pathological anatomy with autopsy & teratology	5	52.5	20		72.5	1:0.38
Immunopathology	5	22.5			22.5	1:0
Toxicology & pharmacotherapy	5	30	1		31	1:0.03
Total		1312.5	482	106.5	1901	1:045

The 'Exotic species project' has been included here.

In addition to the 'core' course, the final year is predominantly comprised of an "option" and electives (see sections 4.1 and 4.6), which cover certain basic subjects in more depth.

In the autopsy clinics, each final year student is assigned a cadaver and has to complete an autopsy, assisted by a 4th and 5th year student. At the end of the autopsy, the pathological findings of each case are discussed with all students attending the autopsy clinic.

Physics, general chemistry, organic chemistry, zoology are subjects taught during the first year of the first cycle at the Faculty of Science of the University of Ghent, or the University of Antwerp for those students who complete their first cycle studies there.

4.2.2 Comments

The teachers in basic subjects are very enthusiastic and the team is impressed with their dedication and effort in delivering the curriculum.

The team was impressed with the courses and facilities, especially facilities at and courses given by the Department of Morphology and Department of Virology, Parasitology and Immunology

There seems to be very little integration of clinical subjects with the basic sciences taught in the first cycle (see also section 4.1.2).

There seems to be an imbalance between the hours allocated to theoretical and practical teaching and the ratio is unsatisfactory.

The students obtain excellent hands-on practical work in both anatomy, with respect to the dissection of fresh cadavers, and in pathology, where the number of necropsies performed during the last three years is shown below. However, Anatomy seems to be treated as a voluminous subject, comprising both basic anatomy and a more clinical oriented anatomy with live animals.

Table 4.6: Number of necropsies at FVMG (2000 - 2002)

	species	number of necropsies		
		2002	2001	2000
farm/large	cattle	237	236	331
	equine	113	129	164
	small ruminants	73	50	100
	pigs	124	43	51
	other farm animals (deer, kangaroo)	13	17	22
small/pets	dogs	460	437	462
	cats	257	215	238
	other pets*	1016	953	1171
	Total	2293	2080	2539

* pigeons, rabbits, laboratory animals, exotic animals and some poultry

Incoming students have very different levels of basic knowledge, which the FVMG has no authority to assess prior to entry (see section 3.2). In addition, the high intake of students results in practical courses being repeated several times. The number of repetitions needed depends on the subject and the number of places in the laboratories

The students have no contact with live animals during the first three years of the study. This means that many students are unfamiliar with handling animals and unable to transform theoretical knowledge (e.g. anatomy and physiology) to practice with live animals.

4.2.3. Suggestions

4.7 Hours in anatomy should be reduced and should concentrate more on clinical anatomy and improved integration /coordination with bio imaging

4.8 Better vertical integration of basic and applied subjects is required (see also suggestion 4.6)

4.9 Students should be introduced to handling live animals during the first cycle, possibly by using the farm and slaughterhouse facilities (see also suggestions 4.4 and 5.1 and section 4.3.2). A knowledge of animal handling could also help the students in their choice of option.

4.3 ANIMAL PRODUCTION

4.3.1. Findings

The topics taught in animal production subjects are shown in Table 4.6. The attribution of these hours according to the 'EEC' subjects is shown in Table 4.1.

Table 4.7: Compulsory animal production subjects for all students

Subject	year	Hours in course				Ratio of lectures to other types of work
		lectures	practical work	supervised work	total	
Ethnography & exterior appearance	1	37.5			37.5	1:0
Ethology, ethics & animal welfare	1	30			30	1:0
Economics of health & production	2	22.5			22.5	1:0
General animal nutrition	3	37.5	5	10	52.5	1:0.4
Domestic animal hygiene	3	15			15	1:0
Applied animal nutrition	4	25.5		4.5	30	1:0.18
Housing of animals & principles of epidemiology	4	22.5		10	32.5	1:0.44
Stock breeding	5	30	1		31	1:0.03
Total		220.5	6	24.5	251	1:0.14

In addition to the 'core' course, the final year is predominantly comprised of an "option" plus electives (see Section 4.6), which cover certain animal production subjects in more depth.

There is access to 35 dairy herds and 17 swine herds, where the FVMG provides all medical services (see also chapter 7). Other herds are available via the ambulatory practice (see also section 6.2.1). There is also an experimental farm, run by the Faculty of Agriculture, with 55 diary cows and 130 sows, where the 6th year students who take the option "ruminants" have to stay for 1 week.

Agronomy, including silage production, pasture management and the use of particular feeds/plants is not taught.

4.3.2 Comments

The exposure to handling of farm animals is only possible in the 6th year unless the students organise it on a private basis. Several times the visiting team was told that there are students who are afraid of farm animals and horses in 4th and 5th year and this is considered to be unacceptable.

There is a good balance between practical teaching and lectures but very little access to poultry farms, where visits are occasional and only during the weeks that the students work in the Animal Health Service.

Animal nutrition is well integrated in the clinical work, especially in small animals where an assistant of the department works part time as a consultant in the clinic. However, the other disciplines are not integrated enough into the clinical studies. The visiting team was glad to recognise that the FVMG is looking for a veterinarian to take responsibility for animal welfare.

Case studies are regularly discussed in the 6th year with basic scientists, such as virologists and pathologists, but there should be better integration/ cooperation with the Zootechnical Institute.

The caseload in poultry production, for students choosing the option "pigs, poultry and rabbits" is too low.

4.3.3 Suggestions

4.10 Students who want to work with both large or small animals would appreciate the opportunity to work with farm animals during the first cycle in order to help them with the decision of following either the large or small animal track. The Faculty should provide this opportunity.

4.11 Animal housing and animal hygiene (such as climate control and animal environment) should be a discipline of the Zootechnic Institute and taught by a veterinarian, working in close collaboration with the Faculty of Agriculture.

4.12 Animal production should be more integrated with the case studies in the 6th year options “Ruminants” and “Pigs, Poultry & Rabbits”

4.4 CLINICAL SCIENCES

4.4.1 Findings

Clinical teaching is provided primarily within the:

- Clinic of Small Animal Medicine (covering internal medicine and surgery)
- Clinic of Avian and Exotic Pet Medicine
- Clinic of Medical Imaging (including orthopaedics in small animals)
- Clinic of Large Animal Surgery
- Clinic of Large Animal Internal Medicine
- Clinic of Obstetrics and Reproduction
- Ambulatory Clinic and Herd Health

The courses in clinical subjects taught by each department and the teaching hours are presented in Table 4.7. The attribution of these hours according to the 'EEC' subjects is shown in Table 4.1.

Table 4.8: Clinical subjects taught (common 5 year 'trunk' and core electives)

Subject	year	Hours in course					Ratio of lectures to other types of work
		lectures	practical work	supervised work	clinical work	total	
Medical imaging	4	22.5			35	57.5	1:1.56
Propedeutics, clinical chemistry and medical pathology of large animals	4	22.5	30	7.5		60	1:1.67
Small animal propedeutics & medicine	4	45		67.5		112.5	1:1.5
General surgery & large animal surgical clinic	4	45			50	95	1:1.11
Diseases of poultry, fur-animals and reptiles	5	30		20		50	1:0.67
Large animal medicine and post mortem	5	67.5			50	117.5	1:0.74
Small animal medicine and post mortem	5	45			50	95	1:1.11
Special surgery*	5	112.5			70	182.5	1:0.62
Reproduction & obstetrics of domestic animals	5	67.5	5	10	62.5	145	1:1.15
Deontology & legislation	6	37.5				37.5	1:0
Total		**495**	**35**	**105**	**317.5**	**952.5**	**1:0.92**

*includes operative medicine, large animal surgical clinic and clinic of medical imaging

In addition to the 'core' course, the final year is predominantly comprised of an "option" plus electives (see Section 4.6), which cover certain clinical subjects in more depth.

Practical clinical training is organised for all veterinary students in all three years of the 2nd cycle of the veterinary course, where students attend the Clinics of Small Animal Medicine (covering internal medicine and surgery), Medical Imaging, Large Animal Surgery, and Large Animal Internal Medicine. In the 5th and 6th year, the students also work in the Clinic of Avian Medicine and Clinic of Obstetrics and reproduction. Furthermore, sixth year students have rotations in the Ambulatory/Herd Health Clinic.

Students are exposed to obstetrical cases for farm animals in the ambulatory clinic and in the clinic of obstetrics and reproduction although numbers of cases were not available, apart from the large number of caesarean sections performed per year, both on the farm and in the clinic. Young calves are obtained for practising fetotomy techniques. Small animal obstetrical cases are seen in the small animal clinics. All fifth year students have the opportunity to perform 3-5 rectal examinations on cattle and those students choosing the ruminant option in the final year have considerably more exposure to this.

Students receive surgical training on fresh cadavers in a dedicated laboratory and also have the opportunity to practice surgical skills on equine and bovine skulls and limbs. Collaboration with local animal shelters provides around 170-200 animals per year for neutering and these are available for the students to operate on under supervision. A considerable number of horses are admitted for castration and it is intended that each student on the

final year equine option has the opportunity to remove at least one testicle. The large animal surgical unit has an impressive case load with around 150-200 equine colic cases being admitted every year and this provides considerable surgical experience for the students.

First year students receive 30 lectures in ethology, ethics and animal welfare but there is no practical instruction. These subjects are taught by staff from the Zootechnical Institute, who also participate in one behaviour clinic a week in the small animal clinic. Through this, students have some exposure to behavioural problems. However, there appears to be no specific course on animal welfare and nor is anything taught on species-specific welfare problems.

Students in the fourth year start their clinical training by following rotations in the various clinics from Monday to Saturday 8:00 - 10:00 a.m. In each of the clinics they are involved in the daily care of the patients. The major objectives in this first year of clinical training are firstly to become acquainted with the clinical cases that are presented in the different clinics, secondly, to become familiar with the organisation of the clinical activities, and thirdly, to learn the specific handling and restraint of animals of various species. The basic principles of clinical examination are demonstrated and practised in each of the clinics.

The fourth year students who are not involved in any of the clinical rotations, have both small and large animal case demonstrations each Wednesday from 8:30 till 9:30 am for 30 weeks, with 12-15 students at a time. Additionally, every morning from 8:00 till 10:00 a.m, fourth year students perform clinical parasitology analyses, with each student spending a week in the Laboratory of Parasitology laboratories. In total, fourth year students experience clinical or supervised work for 75 hours in the small animal clinics, 35 hours in diagnostic imaging and 50 hours in the large animal clinics.

Each fifth year student has 30 weeks of rotations in the various clinics from 8:00 - 10:00 Monday to Saturday and this is under the direct supervision of a teaching member of staff. There are between 12-15 students in each group, although these groups can vary from 3 to 15 students. In these sessions, students are confronted with all aspects of diagnosis and treatment of diseases that they have already studied as part of the theoretical courses.

Final year students obtain 30 weeks of hands-on experience in the various clinics belonging to their “option” (see also Section 4.6), with 3-12 students at a time. Students are assigned patients and are responsible for them during their stay in the clinic that week. Every day visit rounds are held in the different clinics under the supervision of a staff member. Clinical examinations, diagnosis and therapy are discussed and carried out by groups of 3-12 students working under the direct supervision of staff members.

In addition, final year students are put on the emergency duty roster for the Clinics of Small Animal Medicine, Surgery, Internal medicine and Obstetrics as well as for the Ambulatory clinic for large animals. Students who are on duty, work during a full week i.e. from Monday 8:00 a.m. until the next Monday at 8:00 a.m. Their work consists mainly of taking care of patients hospitalised in the clinics to which they are assigned, receiving and treating emergency cases during the night, as well as performing ambulatory consultations under the supervision of a staff member (emergencies & Caesarean sections).

Students taking the option ‘Ruminants’ are obliged to undertake a one-week practice with a cattle herd (on site) and a sheep flock (off-site, during the lambing period). Students taking the option ‘Pigs, poultry & rabbits’ are obliged to visit a swine herd and poultry farm (both on and off-site). Furthermore, these students are also obliged to fulfil a one-week training period at one of the provincial Animal Health Services. During this week they participate in visits to specific problem herds (e.g. problems with mastitis, housing or ventilation problems) and perform necropsies and further laboratory diagnoses. Some students also have the opportunity to spend one week with guided training from a local practitioner. Finally, students may take part in several outside practical training courses such as claw trimming and artificial insemination.

In addition to the above, the Faculty also runs sterilisation programmes for stray cats in cooperation with the surrounding cities. Cats and dogs that have been euthanised in animal shelters are also used for training in surgery by students taking the option ‘Companion Animals’.

The animal material sent to the University and seen by the mobile clinic is detailed in Chapters 6 and 7.

Student participation in an emergency service is obligatory for both large and small animal elective tracts and the Faculty operates a mobile clinic with 5 cars and 3 students per teacher.

4.4.2 Comments

While the visiting team is satisfied that the current curriculum provides adequate training in all the clinical disciplines and major species that will satisfy the EAEVE requirements, it remains concerned that the proposals for the new curriculum in 2005 may result in insufficient exposure to both small animal and large animal teaching in the important clinical areas in the 4.5 years before the "options" are started (see also section 4.1.2).

The clinical training has a good balance of theoretical, supervised, practical and clinical training in all the major subject areas if the "options" are taken into consideration but otherwise, the ratio between theoretical traning/practical and clinical training is unsatisfactory (see table 4.3). The majority of the final year is free of lectures, with the emphasis on training in small groups on rotation in the various clinics. However, the large size of some of the groups is a cause for concern as the group size in the clinics, between 08.00 and 10.00 could be as many as 15 students per group. Having said this, the team also noted that every effort was made to sub-divide these groups into smaller sub-groups whenever there were enough cases in the clinics. The small animal clinics were noticeably crowded with students, residents and interns and this demonstrated is caused by the shortage of space in this clinic (see also chapters 6 and 10).

As noted in chapter 6, the visiting team was impressed with the efforts made by the faculty to ensure that large amounts of clinical material were available in all the clinical departments. At the time of the visit, all students appeared to be fully occupied with exposure to clinical cases. However the visiting team had some concerns that during their time spent with the Animal health Service, students may not have access to commercial poultry and rabbit establishments for farm visits. It is therefore advisable to integrate commercial poultry and rabbits into the farm animal ambulatory clinic.

The visiting team was impressed with the exposure the students received to case material in the post mortem room. All students received hands on practical experience in post mortem techniques for all major species and the case load for autopsies was particularly impressive.

The students had access to small library facilities in each of the clinical departments and were provided with access to a full range of video, CD and other computer aided teaching material as well as a good range of textbooks and lecture notes.

The staff in the Zootechnical Institute informed the visitors that they rarely, if ever, are involved in solving animal behaviour or animal welfare problems that are encountered in the large animal clinics or ambulatory clinic. This deficiency highlights the need for a veterinarian to be appointed in this area, so that they will be able to integrate the Institute work with that encountered in the clinics. The Dean informed the visiting team that he was aware of this problem and would appoint a veterinarian to a post in animal welfare as soon as a suitable candidate had been identified.

The visiting team were concerned that there was no identified teaching in practice management, in particular communication skills and practice structure, nor in the area of veterinary certification or prescription writing. Report writing was covered in the thesis that all students have to complete in the final year but there was no evidence that this included any instruction on certification.

The visiting team were also concerned that there was no evidence that clinical therapeutics, including prescription writing, clinical toxicology and clinical nutrition were adequately covered, even in the final year during the elective options.

4.4.3 Suggestions

4.13 Some of the subjects currently taught in the second cycle should be taught in the first cycle of the course as this will result in a more integrated curriculum. Animal handling and management, basic principles of surgery and diagnostic imaging are subject areas which need to be considered for such integration.

4.14 The lack of space and large size of student groups in the small animal clinic needs to be addressed (see also section 6.2).

4.15 A mobile clinic for commercial poultry and rabbits should be developed within the current Mobile Clinic so that students can obtain practical experience in herd and flock visits (see also suggestion 6.7) .

4.16 Students should receive teaching in practice management, communication skills and practice structure; also in veterinary certification and prescription writing.

4.5 FOOD HYGIENE AND TECHNOLOGY AND VETERINARY PUBLIC HEALTH

4.5.1. Findings

Table 4.9 : Food hygiene subjects taught

Subject	year	Hours in course				Ratio of lectures to other types of work
		lectures	practical work	supervised work	total	
Chemical analyses of food of animal origin*	2	15	15		30	1:0
Veterinary public health & food safety	5,6	82.5		22.5	105	1:0.27
Total		**97.5**	**15**	**22.5**	**135**	**1:0.23**

*analytical chemistry applied to veterinary medicine (22.5 hours lectures, 30 hours practicals in year 2), also counted in food hygiene subjects in SER

In the present curriculum, all students receive the same education in these subjects, which aims to complete the objectives stated by the FVMG:

- graduates should have knowledge and insight in food safety and public health, according to the actual list of EU requirements;
- graduates should have skills to function as official veterinarians in the governmental food chain control programmes and act as sanitary control supervisors in meat industry.

Most of the lectures and practicals are concentrated in years 5 and 6 where a total of 82.5 hours of lectures are given, covering the general knowledge in veterinary public health including the principles of food processing, including environmental protection.

The basics of practical meat inspection are taught in the experimental slaughterhouse of Ghent University, which is located about 8 km away from the FVMG. In 2002, this slaughtered approximately 850 cattle, 270 veal calves, 835 pigs, 575 lambs/sheep, 5 horses and 3 goats. Students receive hands-on supervision and training from a staff member (DVM) during the 6th year of the undergraduate curriculum for 1 week (22.5 hours per student group of 10). Additional visits to industrial cattle and pig slaughtering plants (about 25 kms from the Faculty) are organised and obligatory for final year students. All three slaughterhouses are EC approved.

Visits to meat processing plants are restricted to students of the post-graduate course in veterinary food inspection only (10-15 students/training cycle). However, visits to one or two meat processing factories are organised for a restricted group of about 10 students who take the option 'Quality systems in the production of food animals' (see Section 4.6).

Food hygiene and technology, and veterinary public health practicals are comprised of:

- Demonstrations of laboratory techniques additional to physical inspection i.e. bacteriological examination, trichinoscopy and digestion techniques, inhibitory substances, etc.;
- Demonstrations of sampling for bacteriological examination of carcass surface ;
- Demonstrations of principles of self-control and HACCP.

Demonstrations in laboratory examination procedures are organised for groups of approximately 20 students.

As well as the practicals and demonstrations related to veterinary meat inspection and meat hygiene, practicals in the chemical analysis of food of animal origin are also organised during the second year of the first cycle of the studies (12 hours/student during 3 half day sessions).

In addition, students who take the option "ruminants" or "pigs, poultry and rabbits" have a 1-3 week training at the Animal Health Services during which they can perform necropsies, carry out laboratory diagnosis and visit referred herds.

4.5.2 Comments

The current food hygiene education is based on minimum requirements to perform as a meat inspector in a slaughterhouse.

The practicals are strictly limited to large animal meat inspection, excluding important matters such as milk and milk product inspection, meat products quality management, poultry inspection and fish inspection. Within the EU, veterinary graduates are expected to be trained in these fields as they are able to obtain employment in these fields and therefore this deficit should be redressed.

The slaughterhouse inspection training is satisfactory and is helped by the important work done in necropsies. Students also benefit from the availability of a slaughterhouse largely dedicated to this activity, permitting hands-on activities under proper supervision. Nevertheless, the premises need serious renovation and upgrading to fully comply with the EU standards and furthermore, this renovation is needed in respect of educating the students and demonstrating proper hygiene practice and management. The experimental slaughterhouse is a valuable teaching facility with no equivalent in the industrial abattoirs.

The collaboration with the Food Safety Agency and Animal Health Services is commendable and students have periods where they work in these services, within the option 'Ruminants' and 'Pigs, Poultry & Rabbits', in addition to their work in the electives.

Within the Department of Veterinary Public Health there are different laboratories, some of them performing routine diagnostic tests such as BSE and inhibitory substances. Thus research grants would enable the Faculty to employ more staff, especially as the majority of scientific and support staff in this department are not paid for from the University budget.

There is good collaboration within FVMG, especially within the field of zoonoses e.g. salmonellosis, E.Coli infections.

The students feel that the practicals "Chemical Analysis of Food of Animal Origin" could be intensified.

The future proposed curriculum would improve the knowledge of graduates in veterinary public health to a satisfactory level, however, the Faculty would need to be aware that students choosing the option "companion animals", for example, would not comply with EU requirements in food hygiene and would not therefore be accepted in this field without additional complementary training. Having said this, the proposed curriculum would allow for the necessary practical training in meat products, milk, milk products and fish for those taking the "food hygiene" option.

4.5.3 Suggestions

4.17 The subjects taught in food safety control must include practical training in meat products, including poultry, milk, milk products and fish. For this, an increase in hours, as stated in the planned future curriculum, is necessary.

4.18 The experimental slaughterhouse should be renovated in order to permit increased commercial use of the slaughterhouse which in turn, would bring about greater economic and teaching benefit i.e. more outside commercial income and more carcasses.

4.19 The laboratories in the department of Veterinary Public Health should be used more for teaching and research, thus attracting more research grants and enabling the employment of more staff.

4.6 ELECTIVES, PROFESSIONAL KNOWLEDGE AND OTHER SUBJECTS

4.6.1. Findings

In the final year, students can choose from among five options. During this time they must also prepare a thesis, which is assigned 360 hours of work.

Table 4.10: Curriculum hours taken by the students following the option 'Companion Animals'

Courses within option	Hours in course					
	Lectures	Practical work	Supervised work	Clinical work	Other	Total
Infectious diseases and pathology of companion animals	15,0	40,0	30,0			85,0
Pharmacology and internal diseases of companion animals, with clinical training	15,0			135,0		150,0
Obstetrics, reproduction and artificial insemination in companion animals, with clinical training	7,5	7,5		60,0		75,0
Surgery of Pets, with Clinic	10,0	10,0	10,0	100,0		130,0
Medical Imaging and Orthopaedics of Pets, with Clinic	10,0			150,0		160,0
Diseases of special companion animals and poikilotherms, with clinical training	15,0	40,0		65,0		120,0
Ethology, nutrition and breeding guidance of companion animals	15,0		10,5	4,5		30,0
TOTAL	**87,5**	**97,5**	**50,5**	**514,5**	**0,0**	**750,0**

Table 4.11: Curriculum hours taken by the students following the option 'Horses'

Courses within option	Hours in course					
	Lectures	Practical work	Supervised work	Clinical work	Other	Total
Infectious diseases and pathology of the horse	7,5	0,0	20,0	40,0		67,5
Ethology, nutrition and breeding guidance of the horse	15,0	8,0	7,0			30,0
Pharmacology and internal medicine of the horse, with clinical training	7,5	10,0	30,0	147,5		195,0
Obstetrics, reproduction and artificial insemination in the horse, with clinical training	7,5			157,5		165,0
Surgery of the horse, with clinical training	7,5	15,0		232,5		255,0
Medical imaging of the horse, with clinic	7,5		0,0	97,5		105,0
With approval of the Faculty: courses, to a total amount of 9 credits, to be chosen from the Elective Course List 3rd Year 2nd Cycle Vet. Science, n° 2,4,6-10,13-27	See table 4.5. for average of hours					
THESIS		120,0*	120,0**	120,0***		360,0
TOTAL	**52,5**	**153,0**	**177,0**	**795,0**	**0,0**	**1177,5**

Table 4.12: Curriculum hours taken by the students following the option 'Ruminants'

Courses within option	Hours in course					
	Lectures	Practical work	Supervised work	Clinical work	Other	Total
Infectious diseases and pathology of ruminants	15,0	20,0	10,0	50,0		95,0
Animal production and ethology of ruminants	22,5	15,0				37,5
Surgery and medical imaging in ruminants with clinical training				180,0		180,0
Reproduction, obstetrics and artificial insemination in ruminants, with clinical training				90,0		90,0
Herd health control and epidemiology of ruminants	7,5			157,5		165,0
Ambulatory clinic of ruminants				120,0		120,0
Pharmacology and internal medicine of ruminants with clinical training	7,5	10,0	30,0	117,5		165,0
With approval of the Faculty: courses, to a total amount of 9 credits, to be chosen from the Elective Course List 3rd Year 2nd Cycle Vet. Science, n° 3-5, 7-12, 15-27	See table 4.5. for average of hours					
THESIS		120,0*	120,0**	120,0***		360,0
TOTAL	52,5	145,0	170,0	845,0	0,0	1212,5

Table 4.13: Curriculum hours taken by the students following the option 'Pigs, poultry & rabbits'

Courses within option	Hours in course					
	Lectures	Practical work	Supervised work	Clinical work	Other	Total
Infectious diseases and pathology of pigs, poultry and rabbits	22,5	120,0	20,0			162,5
Animal production and ethology of pigs, poultry and rabbits	22,5		15,0			37,5
Reproduction and artificial insemination in pigs, poultry and rabbits	7,5			97,5		105,0
Herd health control and epidemiology of pigs, poultry and rabbits	15,0		50,0	175,0		240,0
Pharmacology and internal diseases of pig, poultry and rabbit	15,0	10,0	10,0	40,0		75,0
With approval of the Faculty: courses, to a total amount of 9 credits, to be chosen from the Elective Course List 3rd Year 2nd Cycle Veterinary Science, n° 4-6, 9-14,17,19-27	See table 4.5. for average of hours					
Work placement			60,0	60,0		120,0
THESIS		120,0*	120,0**	120,0***		360,0
TOTAL	82,5	250,0	275,0	492,5	0,0	1100,0

Table 4.14: Curriculum hours taken by the students following the option 'Research & Industry'

Courses within option	Hours in course					
	Lectures	Practical work	Supervised work	Clinical work	Other	Total
Methodology of Animal Experimental Research	22,5		10,0			32,5
Applied Biomedical Statistics	15,0		15,0			30,0
With approval of the Faculty: courses (animal species specific), to a total amount of 9 credits, to be chosen from the Elective Course List 3rd Year 2nd Cycle Veterinary Science, n° 4-8	See table 4.5. for average of hours					
With approval of the Faculty: courses, to a total amount of 12 credits, to be chosen from the Elective Course List 3rd Year 2nd Cycle Veterinary Science, n° 4-25 (no overlap with the courses taken sub 5)	See table 4.5. for average of hours					
THESIS		200,0*	200,0**	410,0***		810,0
	37,5	200,0	225,0	410,0	0,0	872,5

4.6.2 Comments

The development of "options" is commendable and the team fully supports the Faculty in realising that, due to the ever-increasing amount of knowledge, a veterinarian can no longer be omni competent. However, there is concern that by concentrating on electives, the Faculty will fail to provide students with the basic all-round veterinary education that is currently required by EU law.

The sixth year students taking the option þig, poultry and rabbits' and those taking the elective 'farm animal' should not spend time on a farm but rather in a pig practice or with a specialist. The Faculty should also ensure that the mobile clinic service also covers poultry and rabbit farms for hands-on practice.

4.6.3 Suggestions

4.20 Sixth year students need to spend time in a pig practice or with a specialist instead of on a pig farm (see also section 4.3)

5. TEACHING: QUALITY AND EVALUATION

5.1 TEACHING METHODOLOGY

5.1.1 Findings

Organisation and the procedures regarding teaching and examinations are written down in a "Teaching & Examination Regulation", issued by Ghent University. It is comprised of 8 chapters and describes all aspects of the academic education and examination in detail.

A decree from the Flemish government covers the whole organisation of a University, including the obligation for universities to carry out proper quality management in both their research and educational activities.

The Executive Committee of Ghent University installed "Curriculum Committees" in each of the faculties in 1992 and "Education Quality Cells" in 1999. These supervise and evaluate all education programmes that are offered. The FVMG has one Curriculum Committee and one Education Quality Cell.

The FVMG Curriculum Committee is a permanent advisory committee responsible for determining the aims, contents and teaching methods of the curriculum. At least half of the members of this committee are full professors, while students make up one third of all members. Assisting academic staff are also represented. The Curriculum Committee discusses future educational innovations and revisions and works out concrete course programmes which are submitted for approval to the Faculty Council.

In the FVMG, the "Education Quality Cell" (EQC) is comprised of a Director (full professor), the Dean, the Chairman of the Curriculum Committee, a permanent Secretary (DVM) and a student. The main task of the EQC is to support the Curriculum Committee in its activities related to assessment of quality of the veterinary education. The EQC evaluates the quality of the program contents, the didactic methods and equipment that are used for teaching, and the didactic expertise of the teaching staff. It discusses possible innovations in teaching programmes and formulates proposals for curricular adaptations for consideration by the Curriculum Committee.

One role of the Curriculum Committee (see also Chapter 2) is to take care that no overlap occurs between the contents of the different courses taught by teachers of different departments and scientific fields. It is also responsible for other, non-curriculum, matters such as assessment of teaching quality. The first quality assessment by the students took place in 1993.

Courses are predominantly organised in a traditional way with lectures being the most frequent form of theoretical teaching. Since the previous EAEVE evaluation in 1992, the final year of study has essentially been made lecture-free, except for two subjects (see section 4.1).

The Faculty believes that the large number of students compared to the available academic staff is a limiting factor in organising Problem Based Learning on a larger scale.

The University has a general policy that a well-documented syllabus should be provided to each student for every course in the curriculum. Most syllabi contain a reference list with related basic or veterinary textbooks and similar information is sometimes provided during the lectures too. To avoid too much dependency on being 'spoon-fed' information, the students now have to produce an obligatory final-year thesis. Students have to prepare case reports in various courses for which the use of the library and the Internet are indispensable.

All academic staff members with teaching assignments are expected to continuously update the contents and syllabi of their courses with respect to recent evolutions in their particular field of veterinary medicine and research. Every two years each course is evaluated by means of student surveys that are organised by the University and assessed by the Education Quality Cell of the Faculty. The results of these surveys and possible recommendations by the Education Quality Cell are given to the teaching staff members.

Each course is evaluated at least once every three years. If a particular member of staff gives more than one course,

they can be evaluated several times in one academic year. When there is a history of problems for a particular course, the period between evaluations can be shortened to one year. Recently appointed professors are monitored more frequently, especially if their first evaluation was not completely satisfactory. The student survey plays a major part in the teaching evaluation process and covers The teaching process (student-teacher contact), subject matter, exercises, examinations and an overall opinion. The questionnaire is completed via electronic means and is anonymous as well as secured by a password. Students evaluate a course the year after they have taken it so that every phase of the course, including the examination, can be assessed. However, students are not obliged to participate in the evaluation of a certain course.

5.1.2 Comments

The visiting team were pleased to note that the Faculty wishes to develop Problem Based Learning and fully appreciates that the possibility of progressing with this is limited by the available numbers of teaching staff. However, in the team's view, some teaching time would be freed by better internal organisation in the clinical departments (see also section 4.4.2 and suggestion 4.14).

The team were also pleased to note that teaching is evaluated by students and also that the evaluation is discounted unless a minimum of 50% of students participate as a core of opinions is necessary for any changes to be made in the teaching. In addition, the existence of specific teaching objectives is commendable.

However, it would be useful for students to gain more hands-on teaching, so that they can gain real experience and learn to develop both their clinical, scientific and communication skills.

It is commendable that teaching ability is taken into account for promotion (see also chapter 10).

5.1.3 Suggestions

5.1 Teaching time to help to develop PBL should be created by improving the internal organisation at the FVMG.

5.2 More time needs to be allocated to hands-on teaching (see also suggestions 4.4 and 4.9).

5.2 EXAMINATIONS

5.2.1 Findings

The Education and Examination Regulation of the University regulates all course requirements at Ghent University. To pass to a subsequent study year, students have to obtain a minimum of 50 % on every course (10/20) and a minimum of 55% over all courses. Except for some special cases, only those students who pass the entire study programme are allowed to move on to the next academic year of study. A student who does not pass a certain study year is allowed to repeat this year.

Although in some cases a continuous evaluation process may operate, the majority of teaching is assessed at the end of the term/year by means of written and oral examinations for each of the courses attended (both lectures and seminars). The continuous evaluation examination system enables insufficiency marks for repeated absence to be given (see also section 4.1).

External examiners are only appointed in special cases, namely as a member of the jury of the final year thesis. This is discussed in Chapter 13.

The main aim of the examinations is to test the students capacity to solve problems and this is tested as thoroughly as possible. However, it is important to note that during the first cycle of teaching, the examination system at the University of Antwerp is not correlated with the examination system of Ghent.

5.2.2 Comments

The team were surprised that external examiners were not required and although the students did not comment on this issue, it would seem sensible to instigate a system of external examiners to ensure impartiality for the students.

There should be close collaboration between the FVMG and the University of Antwerp on the examination of students in the first cycle of the course.

5.2.3 Suggestions

5.3 The faculty should consider increasing the use of external examiners for undergraduate students to ensure impartiality.

5.4 There should be correlation of examinations between the University of Antwerp and FVMG for the first cycle of training with teachers from the FVMG participating in the structure and content of examinations for students at the University of Antwerp.

6. PHYSICAL FACILITIES AND EQUIPMENT

6.1 GENERAL

6.1.1 Findings

Between 1994 and 1996, the FVMG moved from the old facilities in the centre of Ghent into new facilities at Merelbeke, 9 km away from the town centre and adjacent to the Brussels-Ostend motorway.

The main buildings are a four-story laboratory building with stables for animal experiments at the south side of the campus, the building for morphology and pathology at the west side, the buildings for clinics at the north side, with offices and laboratories in the front. There is also a restaurant building and a building for the central administration of the Faculty at the entrance of the campus. The Department of Nutrition, Genetics, Breeding and Ethology moved to Merelbeke in 1972 and occupies a building just across the motorway from the main campus. It is connected by a bridge.

The main four-storey block was planned in 1971, with construction starting 1974. The building was completed in 1984 but the FVMG was not able to move until 1994 due to financial and political issues.

The construction of the remaining buildings (clinics and the morphology) was initiated in 1993 and was finished in 1996. It was entirely paid for by the Flemish Government.

The first building as one enters the campus is the restaurant, with the administration building next to it. The latter building houses the Deans' office, the reception and the general administration offices of the Faculty. The Faculty Student Administration Office, the Education quality control office, the library, the office of the Flemish veterinary journal and one of the two computer classrooms are also here.

The Clinic of Avian and Exotic Animal Medicine and the Parasitology Diagnostic clinic are housed in the A-wing on the ground floor. The Departments of Physiology, Biochemistry & Biometry and Pharmacology, Pharmacy & Toxicology are located on the first and second floors respectively. The third floor houses students laboratories that are used by several courses in addition to an auditorium for 150 students.

The B-wing houses from top to bottom, bacteriology and mycology (third floor), virology (second floor), parasitology and immunology (first floor) and the Department of Veterinary Public Health (ground floor).

The morphology-pathology building consists of a slaughter room for pathology, a large autopsy room and two large cold rooms. For anatomy there is an amphitheatre for demonstrations and a dissection room. On the first floor there is a microscopy room with 80 microscopes. Both the anatomy and the pathology museums are also housed in this building in addition to the Auditorium Maximum (250 places) and the second PC-classroom.

The largest complex houses the clinics and these are described in section 6.2.1. In the centre of the clinics, there are two auditoria with a capacity of 138 students each.

As a whole, the campus has 4 large lectures halls (for 250, 150 and two for 140 students each), along with several smaller lecture rooms (60, 50 and 2 x 30). All auditoria are equipped with audio amplifiers, blackboards, as well as computer, video and slide projection systems. The auditoria facilities enable clinical patients to be shown to students as clinical demonstration material.

The FVMG has 13 rooms for practical work (590 places in total), the four largest of which have places for 80 students, along with another general laboratory, which holds 70 students. There are also 10 rooms for group work, providing a total of 178 places.

First year veterinary students have all of their lectures in the centre of Ghent where Ghent University has several large lecture theatres. Practical and/or supervised work for first year students is mainly performed in University buildings.

Student/other facilities

One of the 7 University restaurants is located on the campus of the FVMG.

For student accommodation, the University has at its disposal six student halls with a total capacity of 1600 furnished rooms, 190 furnished studios and 105 furnished flats. Every room, studio and flat is equipped with a broadband multimedia connection. Students with children can apply to the University day care centre and most students are also able to find local housing within the private sector at equivalent prices to those charged by the University.

In addition, there are also various other welfare and social structures for student support.

The provision of library and computing facilities are outlined in Chapter 8.

Other outside facilities

The Faculty has special relations with several outside bodies. There are agreements between the Faculty and several provincial animal health laboratories (Animal Health Service, Flanders) in which students can receive practical training. Students also benefit from the good relationship between FVMG and the Veterinary & Agrochemical Research centre belonging to the Ministry of Public Health (VAR). Apart from these, the FVMG maintains specific relations with many farmer and breeder associations. Moreover, local practitioners accept many final year students and this helps them to become acquainted with routine practice. The FVMG also uses the facilities provided by the University slaughterhouse at Melle and the industrial slaughterhouses at Zele and Lokeren (see also Section 4.5).

Farm facilities

Ghent University has an animal farm at its disposal, the Bio-centre Agri-vet at a distance of 5 kilometres from the Faculty. This experimental farm comes under the joint control of the Faculty of Agricultural and Applied Biological Sciences and the FVMG and enables students to participate in the management of on-site herds and thus receive practical teaching in animal production.

The Bio-centre Agri-Vet covers 76 ha of land and has a dairy herd with about 60 lactating cows, young stock and a pig herd with approximately 130 sows. There are also other species of experimental animals, such as horses, dogs, cats and goats. The management of the farm is aimed at optimal sustainability by integrating all aspects of the production chain from the arable land to the end product, taking into account animal welfare and health.

Health and Safety

It is not the purpose of an evaluation visit to carry out a comprehensive or technical audit of the provision for health and safety at an establishment. However, during the course of the visit it was noticed that there was a lack of eye washes and emergency showers in some laboratories.

Slaughterhouse/food hygiene

The facilities used for training in the food hygiene disciplines have been outlined in Section 4.5 and there are excellent facilities for carcass handling in both the clinics and pathology department.

6.1.2 Comments

The visiting team were very impressed with the standard of the laboratories, all of which seem to follow the GLP code. The morphology and virology laboratories were particularly impressive. The Faculty is commended for its efforts to improve its diagnostic facilities, primarily for research, but which also serve to enhance undergraduate training, for example through their project work.

The visitors were surprised that each clinic/ department had its own system of record keeping and were informed that there were 6 or 7 databases in existence on the campus, with no means of communication between them. In addition, a computer commission for the campus used to be in place but has been disbanded, thus there is no means for electronic

communication between departments, e.g. between the laboratories and the clinics. This should be addressed.

Most of the facilities are recent and in very good condition. Furthermore, the general disposition of the buildings is efficient, with adequate attention paid to environmental constraints. The “one site” concept favours collaboration within the faculty and particularly within the clinics (see also section 6.2). However, the Zootechnical Institute appears to be outside of this concept, being located on a slightly different site with the staff feeling isolated. Some efforts should therefore be made to make better use of the Zootechnical Institute, as well as towards integrating it more effectively with the other Faculty departments.

It was noted that some of the teaching premises e.g. lecture rooms and practical demonstration rooms, are used to their maximum capacity (see also section 4.4.2). Although the visiting team appreciates the constraints that the Faculty is operating under with regards to a high drop-out rate and a fluctuating number of students, reallocation of space and larger capacity rooms are necessary.

6.1.3 Suggestions

6.1 A Faculty-wide computer network should be re-established, with the aim of developing a single database system which could be accessed by all departments on the campus (see also suggestion 8.3).

6.2 There should be better integration and more use made of the Zootechnical Institute.

6.3 The proposals for introducing ‘tracking” in the new curriculum and for the development of Problem Based Learning, have implications for the future allocation of space throughout the Faculty. The FVMG should soon begin to assess its future needs in this matter, looking 10-15 years ahead.

6.2 CLINICAL FACILITIES AND ORGANISATION

6.2.1 Findings

Physical facilities

Clinical services and training are housed in the clinical building in a series of interconnected 'modules'. In the largest complex there are clinics for obstetrics and reproduction, internal medicine, surgery, medical imaging and clinics for small animals. Each of these clinics consists of an administrative building with offices, laboratories, meeting rooms and accommodation for intern students. The animals are housed in stables behind the clinics.

There are also examination rooms, a manège, a stud room, several operation rooms and a smithy. The stables are equipped with an automatic manure evacuation system, a supply of medicinal gasses and a milking installation and tackles.

All clinics are well equipped in order to offer specialised examinations and treatments, such as endoscopy equipment, echodoppler machines, CT-scanner, scintigraphy, intensive care units, cryosurgical units and lasers.

The Clinic of Avian and Exotic Animal Medicine has specialised equipment for birds and exotic animals (reptiles, fish, rodents, rabbits and others). This equipment includes dental material for guinea pigs and rabbits, heated cages for nursing and post-surgical recovery, nebulation facilities, special critical care food for herbivoric exotics, crop needles, endoscopic material and hospitalisation facilities for fish and reptiles. A clinical pathology laboratory for clinical chemistry, haematologic, microbiologic and cytologic diagnosis is available.

In the clinical departments, student accommodation is present as students are on permanent duty. The accommodation rooms have a shower, bed, desk and, kitchen.

Table 6.2.1: *Places available for clinics and hospitalisation*

number of hospitalisation places for cattle	98
number of hospitalisation places for horses	120
number of hospitalisation places for small ruminants	44
number of hospitalisation places for pigs	30*
number of hospitalisation places for dogs	39
number of hospitalisation places for cats	11

* part of these stables are also used for experimental purposes.

The Faculty has 10 isolation places for small animals, and 25 for farm animals and horses.

Clinical services

In addition to the Department of Small Animal Medicine and Surgery, the Departments of Diagnostic Imaging, Obstetrics and Reproduction and Nutrition are also involved in small animal consultations. Birds and exotic pets are seen by the Department of Pathology, Bacteriology and Poultry Diseases.

The physical buildings are maintained by the University. A policy of 24 hours service assures the referral of "normal" and emergency cases (see above). The equipment needed for running the clinics (surgical, anaesthetic and other equipment) is mainly purchased from the income of the clinics but also by grants. The maintenance of the equipment (including maintenance contracts with commercial companies) is also paid from the income of the clinics.

The clinics are open for clinical activity 52 weeks /year as tabulated below:

Clinic/Department	Weeks / year	Days / week	hours
Clinic of Obstetrics and Reproduction	52	5	8:00-17:00
Clinic of Large animal Internal Medicine	52	7	8:00-17:00
Clinic of Large Animal Surgery	52	5	8:00-17:00
Department of Medical Imaging	52	5	8:00-17:00
Clinic of Small Animals	52	5	8:00-17:00
Clinic of Avian and Exotic Animal Medicine	52	5	8:00-17:00
Laboratory of Animal Nutrition	52	1	8:00-17:00

Outside these consultation hours, clinical activity continues throughout the day in all clinical departments. Clinical activity includes surgery in both small animal and large animal clinics and in addition, specialised examinations are also scheduled throughout the day.

An emergency service is present in all clinics for 24 hrs a day, 7 days a week all year round, except for the Clinic of Avian and Exotic Animal Medicine where emergencies can arrive during weekdays but not at night or at weekends.

Final year students, interns and residents are permanently on duty, backed up by other staff members, who can be present within 10-20 minutes outside working hours. A staff member internist, a medical imaging expert, an anaesthesiologist and a surgeon are available at all times. All necessary equipment and products are available for emergency procedures.

For most clinical emergency services, final-year students together with an intern examine the patients initially. A resident and staff member are available for necessary interventions.

Sterilisation programmes are organised and paid for by the authorities of the surrounding cities (Ghent and Wetteren) and in addition, there is a special relationship with several specialised practitioners where students may participate in consultations or else observe.

The FVMG has made substantial efforts to create a specific staff status which allows diplomate veterinarians teaching in clinics, to acquire a further specialisation in different disciplines. This assures a good education in a well structured environment. Specialisation is pursued in all clinics although some specialisations, such as dermatology, are only provided on a part-time basis.

In the Clinic of Avian and Exotic Animal Medicine a daily presence of veterinarian(s) with experience in birds, reptiles, amphibians, rabbits, rodents, ferrets and fish is assured.

Clinical income is used to pay for many of the junior staff and for the purchase of most of the equipment.

Local practitioners regularly send referral cases to the clinics (see Table 7.3) or invite a clinical team to visit a herd in cases of specific herd problems. Afterwards, a report of the examinations is sent by mail, with the diagnosis and treatment of the referred patients. This report can also give contact details for the specialist involved in treating the animals.

Mobile clinic

Three teams are operating in the Ambulatory Clinic, 2 for farm animals and 1 for horses.

The ambulatory clinic for farm animals is active 7 days/week.

The ambulatory clinic for herd health control works 5 days /week at 3 hrs/day for cattle and 3 days/week at 4 hrs/day for pigs. The ambulatory clinic for horses operates also 7 days/week.

The ambulatory clinic uses 5 cars (breaks). Each car has a seating capacity of 1 veterinarian and 3 students and the average number of visits in a year made by the Ambulatory Clinic to farms, studs and kennels is as follows:
cattle: 3500;

swine: 400;
equine: 1000;
small ruminants: 200;
dog kennels: 20.

The Faculty has one truck, with a full-time professional driver, at its disposal for large animal transportation and a small vehicle to transport small ruminants and calves. Clients are charged for the use of this service.

The Department of Morphology has a trailer and a licence for transport of small animal cadavers and animal organs to the anatomy dissection room and to a number of other departments, in particular to the Department of Small Animal Medicine and the Department of Medical Imaging. Transport is performed by the technical personnel affiliated to the anatomy dissection room.

Diagnostic laboratories:

Several diagnostic laboratories within the Faculty support the clinical services with their analyses. There are laboratories for biochemistry of small animals, endocrinology, bacteriological examination of uterine and milk samples, histopathology, bacteriology, mycology, virology, parasitology, toxicology and immunology. The students are involved in the interpretation of test results provided by external laboratories. For most internal examinations they are also involved in the performance of the analyses. However, a centralised clinical laboratory has not been established.

Diagnostic pathology facilities:

The FVMG has two central necropsy facilities, one for farm animals, wild animals, dogs and cats, and one for birds, poultry, small fur animals and exotic animals. These facilities are equipped with cool rooms where carcasses can be stored for a short period. For large animals, electric pulleys allow easy transport of the cadavers from the cool room to the specially designed necropsy tables.

Students enter these premises through a separate entrance where they change clothes in dressing rooms separate for male and female students. Necropsies are done daily (except on Sundays) and every day approximately 20 students from the second cycle carry out necropsies under the continuous supervision of 2 or 3 teachers.

Labelled necropsy findings are exhibited at the windows of the demonstration corridor along the major necropsy room on a daily basis and students may study them between 10:00 and 14:00.

Diagnostic parasitological facilities:

Each day, approximately 8 fourth year students carry out parasitological diagnostic techniques on samples from the clinics and from practitioners in the laboratory for Parasitology & Parasitic Diseases. This is under continuous supervision.

Central clinical support services:

There is no official independent department of anaesthesia. Each clinic has its own anaesthesiologists, assuring essential services under the supervision of a senior anaesthesiologist who is in charge of the practical organisation of this service. There is a close collaboration between the different anaesthesiologists is present including the exchange of residents between the departments, a weekly journal club and the organisation of continuing education. Several veterinarians in the FVMG are involved fulltime in anaesthesiology and related matters (including intensive care of small animals).

Medical imaging is provided for all clinics by a centralised department, which has the capacity for radiology, ultrasound, computerised tomography (CT) and scintigraphy. It is located between the small and large animal clinics and offers an easy access to all patients. The majority of patients are referred to the department by the faculty clinics, although a small number of patients are referred by general practitioners. The department also provides holiday and night service, involving all staff members in this emergency service.

Future changes

In 2004 the isolation facilities for horses will be upgraded. The number of places will be reduced but instead of two wards for several horses there will be several individual units. Each unit will consist of one stable (4 by 4 m), a space for disinfection and changing clothes and a separate entrance. Four of these isolation facilities will be built in the Department of Large Animal Internal Medicine, one in the Department of Large Animal Surgery and one in the Department of Obstetrics, Reproduction and Herd Health. The facilities are designed specially for horses, but they could also be used for cattle when needed.

Also in 2004-2005, the facilities for young cattle at the experimental farm will be renovated. The financing and building plans have been approved by the University.

In October 2005 there will be a new administrative unit ready for the Department of Medical Imaging. This building will include a lecture room for 80 people. The financing and building plans have been approved by the University.

In October 2006 the FVMG will have a new clinical building for poultry, birds and exotic animals. The financing and building plans have been approved by the University.

6.2.2 Comments

Clinical facilities

The visiting team were impressed with the high quality of all the facilities on the campus and the high standard of maintenance and the ease of access for all the students.

The team appreciate that for historical reasons, the subdepartment of small animal orthopaedic surgery is currently part of the department of Medical Imaging, however, it is our view that this sub-department should be integrated within the Internal Medicine and Clinical Biology of Small Animals where the operating facilities already exist. This would enable the small animal services to operate in a more efficient manner.

It is clear that there is a serious imbalance in the provision of accommodation for the various clinical departments. The accommodation for the small animal clinic is at maximum capacity and will soon become a limiting factor preventing development and expansion of this department. At the same time, it was apparent that the accommodation provision for the large animal medicine and surgical departments is considerably in excess of requirements and there was no indication that these departments are growing to the extent that the accommodation will be fully utilised within the foreseeable future. There is an urgent need to address the shortage of accommodation in the small animal clinic, particularly the number of consulting rooms and office space. The allocation of resources for an extension to the accommodation for the medical imaging department is welcomed, however this will not resolve the imminent problems with small animal clinical accommodation.

The visiting team were impressed with the availability of a wide range of equipment that is available in the small animal clinic and make no recommendations for further equipment.

Although the department of medical imaging is well equipped for current use, the department will need to consider the need for a MRI scanning facility in the near future. This will require extra space to be found. The visitors are aware of plans for a new administrative unit for this department in 2005 but this will not solve the problem of space shortage for the small animal clinical services.

There are four disciplines that need to be developed as they are now necessary for any up-to-date small animal clinical department; these are dermatology, ophthalmology, oncology and dentistry. At the moment these subjects are taught by high-standard visiting lecturers but this is still considered to be an unsatisfactory solution for these important disciplines if a truly first class small animal department is to be available for current veterinary under graduates. Not only do these disciplines need to be taught by full time staff members but extra accommodation will

also be required if they are to be developed and the necessary case load follows.

While the kennel accommodation for small animals is currently adequate, plans need to be developed for increasing kennel accommodation as the case load expands. This should be possible within the current buildings, either by more efficient use of the current buildings allocated for small animal accommodation or by using one of the buildings currently allocated for large animal stabling.

In the clinical departments there are four small laboratories to which students have access and where they can perform many laboratory tests 24 hours a day. While these facilities are impressive, the visiting team consider that a more efficient use of space and laboratory facilities should be made, with all the clinical departments having access to one central laboratory in the clinical buildings. This laboratory also needs to be staffed by a clinical pathologist.

The number of students has increased steadily over the last few years. Despite the fact that the clinical lecture halls have been expanded, they have no longer the capacity to host the total number of students.

The number of teaching staff, the patient load and the number of researchers have increased since the new campus was opened. As a consequence, there is already a shortage of staff rooms and laboratories. The University has provided pre-fabricated units as a short-term solution.

Clinical services

The clinics provide a good balance of both first opinion and referral cases. 24 hour care is available for all clinical services.

The mobile clinic for large animals appears to work well and provides valuable experience for the students. It is commendable that the mobile clinic operates to Good Clinical Practice

6.2.3 Suggestions

6.4 The Dean should instigate a root and branch review of the current and future accommodation requirements of all the clinical departments, with the aim of determining the optimum use of the current accommodation and that which is planned, so that none of the clinics will be restrained by lack of accommodation for their clinical work or their staff.

6.5 Urgent consideration will need to be given to increasing the accommodation in the small animal department.

6.6 The Faculty should consider the provision of a central laboratory for the use of all the clinical departments (see also chapter 2) and the staff should include the appointment of a clinical pathologist (haematology, biochemistry etc.)

6.7 The team suggests that the commercial poultry and rabbits facility should be integrated within the Farm Animal departments, in particular the Mobile Clinic (see also suggestion 4.15).

6.8 The review of the Department of Medicine and Clinical Biology of Small Animals, (see suggestion 10.2), must include the incorporation of small animal orthopaedic surgery.

6.9 The activities of the exotic pets and non-commercial animals now being carried out within the sub-department of exotic animals and poultry, should be integrated within the small animal department.

6.10 The Faculty needs to have discussions with the Department of Medicine and Clinical Biology of Small Animals, to see how its future plans can be accommodated, possibly within the current clinical building in the short to medium term, in addition to its needs for the long term.

7. ANIMALS AND TEACHING MATERIAL OF ANIMAL ORIGIN

7.1 Findings

The animal material sent to the Faculty and seen by the mobile clinic is detailed in Table 7.1. The relocation to the new site in 2002 has disrupted the case flow of all species.

Table 7.1: Number of animals seen at the FVMG (2000 - 2002)

		consultations			hospitalisations			autopsies			mobile clinic
		2002	2001	2000	2002	2001	2000	2002	2001	2000	2002
Farm animals	Cattle	1377	1200	1859	802	717	917	237	236	331	3500
	Horses	5810	5528	6424	1835	1670	1829	113	129	164	1000
	Small ruminants	164	109	137	100	65	66	73	50	100	200
	Pigs	9	17	3	5	5	0	124	43	51	400
	Other farm animals	13	12	12	3	3	4	13	17	22	
Pets	Dogs	5950	4240	4170	1540	1379	1034	460	437	462	20
	Cats	1990	1410	1280	579	533	436	257	215	238	
	Other pets*	850	800	750	50	50	10	1016	953	1171	

* pigeons, rabbits, laboratory animals, exotic animals and some poultry

Table 7.2: Number of anatomies at FVMG (2002 - 2003)

	canine	feline	equine	bovine	porcine	avian	others
eyes			80		60		
total fresh corpses	56	40	17			85	72*
limbs	310		700	260			
viscera	110						
kidneys				60	60		
male & female genital tracts				120	120		
lungs					60		
pharynxs			40				
brains	100		140				
bony specimens	20	3	5	12	3	3	10

* fish and laboratory animals

Percentage of primary/referred cases:

Department/Clinic	**Species**	**Primary (%)**	**Referral (%)**
Obstetrics and Reproduction	equine	70	30
	cattle	90	10
	small ruminants	90	10
	swine	-	-
	pets	20	80
Large Animal Internal Medicine		20	80
Large Animal Surgery		20-30	80-70
Medical Imaging (large and small animals)		10	90
Small Animal Medicine		50	50
Avian & Exotic Animal Medicine		90	10
Animal Nutrition		10	90

Handling of production animals, cattle and horses is partly taught at the Faculty, with Faculty-owned animals that are kept within the Faculty in the same facilities available for patients. These animals have access to pasture during

the summer months and during winter time they are kept in individual stables (4 by 4 meter for horses) or tied up in stalls (width 132 cm for cattle).

A varying number of horses (on average 8) and cattle (usually 4) are kept at the Department of Large Animal Internal Medicine for that purpose. These animals are also used for clinical demonstrations and as blood and plasma donors.

The Department of Large Animal Surgery and Anaesthesiology also has a varying number of horses and ponies (average 6) for analogue purposes. A limited number of cattle (average 4) are yearly purchased for practical exercises (surgical interventions); these animals are kept only for a limited period (average 1 week). The Department of Obstetrics, reproduction and herd health has an average of 9 horses, several cows and 3 bulls for teaching purposes.

Other animal husbandry teaching takes place at the University farm "Bio-centre Agri-Vet" (see Chapter 6).

The Departments of Obstetrics, Reproduction and Herd Health and Surgery and Anaesthesiology of domestic animals very often use material from the slaughterhouse for the practical training of students. Young calves are used for practising fetotomy. Uteruses are used for the practical training of rectal palpation and pregnancy diagnosis. Equine and bovine limbs, skulls and pork skin are used for practical surgical exercises.

There is access to 35 dairy herds (1750 cows and young stock) and to 17 swine herds (2500 sows) which participate in the herd health control programme carried out by the Department of Obstetrics, Reproduction and Herd Health. Furthermore, many other herds are available in the ambulatory practice. The total amount of cows and young stock is about 5000.

For student on the 'pigs, poultry and rabbits', the relative small number of pigs and poultry coming into the clinic for consultation or hospitalisation is being compensated by the work placement that students have to fulfil. During this stage, students spend 14 days on a pig farm (average 300 sows and 3000 fattening pigs), one week on a rabbit farm (average 10000 rabbits), 6 days in the Animal Health Service (3 weeks, 2 days/week) and 2 weeks full time with a veterinarian involved in pig or rabbit herd health.

The dogs kept for experimental purpose (see Chapter 6) are almost never involved simultaneously in an experiment and so approximately 15 dogs are available for teaching.

The cost of disposal of cadavers is 75,000 Euro per year. This is paid for by the University.

FVMG also has a Student Riding Club where Faculty-owned horses of the large animal clinics are used. Students can thereby have voluntary contact with handling these animals.

The ratio of students graduating: clinical caseload in pets (2002) is about 1:51 (171:8790)

The ratio of students graduating: clinical caseload in livestock (2002) is about 1:43 (171:7373)

The ratio of students graduating: necropsies (2002) is 1:7.4 (171: 1263). (The figures used for calculating the ratios exclude other farm animals or laboratory animals for reasons of comparability). Source: Table 7.1.

All of these ratios are considered to be satisfactory.

7.2 Comments

Due to the collaboration with the local shelters the students have access to an continuing castration programme of cats and this provides them with good practice in routine surgery. The mobile clinic is also a strong point and the Faculty has developed a good relationship with neighbouring practitioners.

The visiting team were concerned that students do not have the opportunity to carry out basic handling of animals during the first cycle of study. The curriculum should be changed so that basic handling of animals takes place during the first or second year of training, rather than during the second cycle of training (see also suggestion 4.4

and section 4.3.2).

The visiting team were informed that it is the responsibility of individual students to gain practical experience. The visiting team found out that many students do regular visits in practices but that some do not. Having said this, the material available is considered to be sufficient and the team is particularly impressed with the fresh material available to both pathology and anatomy and through the necropsy system.

The students could do with more post-mortem experience on industrial poultry, in addition to visiting the slaughterhouse at an earlier stage in their training, i.e. during the first cycle.

7.3 Suggestions

7.1 The curriculum should be changed so that basic handling of animals takes place during the first or second year of training, rather than during the second cycle of training (see also suggestions 4.4 and 4.9).

7.2 It would be advisable for 6th year students to visit a practice or/and a health service and to undertake practical work rather than laboratory work, for a minimum of 4 weeks. This will help to prepare them for work after graduation.

8. LIBRARY AND EDUCATIONAL RESOURCES

8.1 Findings

The new library of FVMG serves as the basic library for the Faculty and is mainly used by students for making case studies and their end-of-study thesis; it is complemented by various departmental libraries.

The basic library provides various services to its users e.g. assisting in the overall use of the library by an experienced librarian, access to the electronic databases and also the retrieval of journal articles and other documents.

The library maintains an open-stack policy and library users may search for and remove books from the shelves. It is open from 09:00 – 19:00 on weekdays in term time and from 09:00 – 16:30 during vacations.

The library has an annual budget of about 140,000 €, 1 full time employee and 1 FTE of part-time employees.

Each departmental library is the responsibility of the department, and has its own budget and acquisition policy, their contents are catalogued in the Faculty library. The collection of both the Faculty and the Departmental libraries includes 11,051 books and they currently receive about 282 journals and serials a year.

IT resources

The library's main assignment has moved from conserving printed journals and books to functioning as a help desk for the digital highway, familiarising students and researchers with the internet, on line databases such as the Web of Science, Medline and Beast and Vet CD. All students and researchers have access to these databases, full text journals and other electronic resources from home, provided they have an account with the Directory of Information and Communication Technology (DICT) of Ghent University.

The library management unit currently has 7680 e-journals, of which, 900 are related to veterinary sciences. Research software such as medical or SPSS is provided on the network.

The Faculty has two computer teaching rooms, one adjacent to the library, and one in the morphology-pathology building, equipped with 27 and 31 computers respectively. Both computer rooms are used for several courses on the basis of reservation but are also freely available for students in the non-reserved time periods. Students may use the PC's for didactic and research purposes and are encouraged to do so. Instructions and help are provided if necessary.

The IT facilities are provided and maintained by the DICT. Students and staff are advised to have a personal account which provides an e-mail address, storage room on the University server and the possibility to access databases and full-text electronic journals. Researchers and staff can provide courses, photos, software etc. on the network. Scanning and writing to CD-Rom is possible.

The FVMG is actively involved in the development of e-learning and for that purpose a Faculty-wide project for on-line presentations of interesting patients began in April 2003, funded by the Flemish government. With full use of available multimedia tools (photos, videotapes, sound) all aspects of examination and treatment of selected patients are covered in a standardised format (http://www.laim.ugent.be)

Different clinical departments have developed different databases in order to collect clinical case information. These databases are not linked/ compatible.

STIHO encourages innovative higher education and is funded by the Flemish Ministry of Education. The STIHO-project 'Interactive Veterinary and Human Physiology' is a multidisciplinary project in which Ghent University acts as main partner besides the Louvain University and Artevelde High School of Ghent. Education, course content and research in physiology in each partner institution is very different.

Ghent University also implemented the CLAROLINE platform (http://www.claroline.net/) in 2003, which is an open source platform that enables distance learning for students. Several departments participated in its completion.

The central library has limited space devoted to reading and a very limited book collection. Most of the useful books are kept in departmental libraries. In these, access to students is restricted.

8.2 Comments

It appears that only the last year students really use the library facilities. The extension of opening hours to evening and some Saturday mornings is commended but the library should consider opening the library every Saturday as students, especially in the final years, are involved with clinics and therefore find it difficult to visit the library during normal working hours.

The central library needs to stock more books and journals. The current use of departmental libraries, maintained by professors, is not efficient for student use and a centralised resource with more text books is needed. Furthermore, there needs to be an updated central registration of books kept in departmental libraries that is regularly checked by library staff.

The use of IT is now routine practice for students and teachers and the available resources are sufficient. However, the different departmental databases need to be integrated (see also section 6.1).

8.3 Suggestions

8.1 The amount of material available in the central library needs to be improved to enable students to have a central resource

8.2 There needs to be an updated central registration of books kept in departmental libraries and this should be regularly checked by the library staff.

8.3 There should be an integrated database assembling the elements from different departments. The Computer Commission could be reactivated for this purpose (see also suggestion 6.1).

9. ADMISSION AND ENROLMENT

9.1 Findings

In Flanders, limiting the number of students who start university studies is not permitted (except for studies in human medicine and dentistry, where an entrance examination is required). Every person who finishes high (secondary) school is allowed to enrol for any course in any University and furthermore, with parity of access, students from all EU countries may also enrol at Ghent University without restriction. FVMG is particularly attractive to students from the Netherlands, who presently comprise 26% of the undergraduates. The result of this system is that the number of students enrolled in the 1st year of Veterinary Medicine is very high, unpredictable and very heterogeneous in terms of the basic scientific knowledge they have.

This situation creates difficulties with regard to the staff/student ratio, particularly as the number of graduates may vary widely from one academic year to another and up to 65% of students do not progress beyond the 1st year. A further difficulty is experienced in the 4th year since students who have finished their first cycle of 3 years of study at Antwerp University, join the FVMG at Ghent University to complete their clinical training and to obtain their diploma of veterinarian. Fifty of the 171 who graduated in 2003 were in this category.

Table 9.1.2: *Undergraduate student numbers*

Year	2002/03	2001/02	2000/01	1999/00	1998/99
Number applying	399	323	279	320	343
Number admitted	399	323	279	320	343
number graduated	171	193	149	155	127

A total of 1279 undergraduate students are enrolled with the following composition:

Male students	415
Female students	864
Nationals	1005
Foreign students	274

The average duration of studies is 6.79 years.

Funding of university education by the government is linked to the number of students: the more students, the higher the funding for the University and Faculty.

The fee that students have to pay for one academic year is the same for all education at university level, and varies from € 80 to € 488 depending on the circumstances of the student (see also chapter 3).

9.2 Comments

The drop-out rate is high, which is not the fault of the Faculty, but a reflection of the lack of any meaningful control on the quality and quantity of the intake. In view of the waste of time and resources of both the staff and the students, it would be far more efficient and honest to have a controlled entrance procedure, as opposed to having to teach an excessive number of students, 2/3 of whom will quit the course.

The population of Flanders is six million. Therefore using the EAEVE indicator of 10 graduates per 1 million of population, the numbers graduating would exceed demand by a factor of 2.5-3.0. However it is expected that the majority of graduates from other EU countries will be likely to return to their home country, particularly the high number of students from the Netherlands.

The Flemish government policy of open access to all school leavers with a diploma of secondary education causes considerable difficulties for the Faculty and for the students. The first year curriculum is mainly devoted to biology, chemistry, physics and biomedical informatics and statistics to allow for students who had not studied these subjects at school. However, the drop out rate is still excessive and at the end of the first year it averages 65% and must be considered an extraordinary waste of resources.

The fluctuations in student numbers from year to year causes difficulties with regard to the staff/student ratio. Furthermore, while the course of study is six years nearly half of the students take 7 years or longer. Perhaps this is further evidence of the need for minimum academic standards to be imposed at enrolment.

There is inadequate contact between the FVMG and the university of Antwerp about the number and abilities of students taking first cycle studies at the University of Antwerp. Closer contact may help to eliminate, or at least to plan for, some of the problems referred to above.

9.3 Suggestions

9.1 There should be closer contact between the FVMG and the University of Antwerp throughout the first cycle of studies as to the number and competence of their students.

9.2 Although the visiting experts know that it is a political issue, they recommend that the Flanders' authorities consider introducing a form of educational assessment of school leavers applying for veterinary studies at the FVMG and at the University of Antwerp.

Please note that the implementation of suggestion 4.4 will have implications for the first cycle course taught at the University of Antwerp.

10. ACADEMIC AND SUPPORT STAFF

10.1 Findings

Table 10.1: Academic and support posts in Departments

Department or Clinic	Academic staff				Other	Support staff			Total
	Prof.	Assoc Prof	Assist. Prof	Assist.		tech./anim. carers		admin./ general	
						teaching	research		
Physiology, Biochemistry & Biometry	2	2		6		1	2	3	16
Pharmacology, Pharmacy & Toxicology		2	1	4			9.5	3	19.5
Morphology	1	1		5		2	3	1	13
Virology, Parasitology & Immunology	1.2	4.2	1	16		3	13	3	41.4
Pathology, Bacteriology & Poultry Diseases	2	2	2	13		3	10	4	36
Veterinary public health	2	1	2	5		1.5	17.9	1	30.4
Nutrition, Genetics, Breeding & Ethology	1	3		6		2	7	1	20
Obstetrics, Reproduction & Herd Health	1	5	1	14.6		6	1	3	31.6
Medicine & clinical biology of Small Animals	1	2.2	2	7.8		5.5		4	22.5
Surgery & Anaesthesiology	1	3		6.9		10		3	23.9
Medical Imaging	2	3		2.7		4	1	1.5	14.2
Large animal internal medicine & clin. biology	1		2	4.4		4.5	1	2	14.9
Departments of other Faculties									
WE05	1			1					2
WE06	0.5	0.5		1					2
WE11		1		1					2
LA01	0.5								0.5
LA05	0.5								0.5
Dean's Office						2	1	10	13
Outsourced (cleaning)					19				
TOTAL	17.7	29.9	11	94.4	19	44.5	66.4	39.5	322.4

A large part of the government funding for the University of Ghent is used for staff salaries and there is a complicated allocation model to resource the various faculties. The number of students per faculty is an important parameter in this model but other factors are taken into consideration as well. Personnel points are granted on the basis of the following elements:

- the number of different training programmes offered;
- the educational load that corresponds to the courses taught by the faculty staff;
- the educational load for teaching services rendered by academic staff in other faculties;
- a research component.

Using this model, Ghent University gives each faculty a number of points, which it deploys to 'buy' staff. An assistant is equivalent to 0.9 academic points; a post-doc 1.2; an assistant-professor 1.3; an associate professor 1.6; a full professor 1.9 and an ordinary professor 2.2). Technical staff ranges from 1.1 to 0.5 points. With these points the FVMG employs about 222.4 FTE.

For the distribution of staff within the FVMG the Faculty has its own allocation model. The model is based on the University's model and takes into account the number of students, the educational load (80%) and the research output (20%, mostly publications in international peer reviewed journals, chapters in books and PhD theses). This model shows whether a department is virtually under- or overstaffed. This model is only used as a guideline. For each new assignment the real needs of a department are taken into account. Each year a human resources plan is made.

Apart from the aforementioned staff, the different departments can acquire extra funding by applying for research grants and by providing academic services (mostly clinical work). An additional 102 FTE of staff are supported through such external funding.

80 % of the budgeted teaching staff (basic sciences included) are veterinarians.

The academic staff has been increased considerably since the previous evaluation.

To overcome the problem of recruiting and retaining academic staff the FVMG made substantial efforts to create a specific staff status which allows diplomate veterinarians teaching in clinics to acquire a further specialisation in different disciplines, assuring a good education in a well structured environment. Additionally veterinarians with a high level of practical knowledge or already having the status of 'Diplomate' are presently attracted in different departments as so-called Assistants for practical education. These positions are paid by the central system of the University but there is only a limited number of positions available. Because of this limitation, several departments employed veterinarians using the income from the clinics to improve the clinical education of the students.

The Faculty notes that several members of the academic staff left the FVMG in recent years because of different reasons such as the lack of promotion or nomination and the low financial remuneration of a full academic position.

Continuous education of the staff members in all clinics (attending meetings and congresses, attending specialised courses) assures a high level of expertise whereby newer techniques and equipment are used. Staff members are encouraged to sit the European Diplomate examinations and several internships and residencies are available. Currently 24 diplomates from 14 different European Colleges are included in the Faculty staff

All courses are evaluated by students every 2 years for teaching performance. In addition, junior permanent academic staff members are evaluated every 2 years on the basis of research and on service provision (by peers) and senior permanent academic staff members are evaluated every 3 years on the same basis.

The results are collected in a so-called "education file" which is part of the personal file of a teacher and which is taken into account together with the teacher's research activities and services to society in order to get a possible promotion.

The Faculty of Psychology and Educational Sciences of Ghent University organises a training that is accessible to all lecturers of the university. From 1998 on already 26 training modules have been organised on various topics, including:

- Problem assessment;
- Objectives of a university education;
- Presentation of different styles of education and instruction;
- Teaching theories;
- Presentations for a large number of students;
- Simulation exercise: designing courses: situation and preparation;
- Simulation exercise: giving lectures, presentation and feedback;
- Activating teaching techniques;
- Evaluation of courses by the students;
- Principles in higher education;
- Internal regulations on education and examination;
- Criteria for an effective examination;
- How to design good multiple choice questions.

The ratio of teaching staff: students is approximately 1:8.4 (153:1279). This ratio is considered to be unsatisfactory.

The ratio of teaching staff: support staff is approximately 1:1.1 (153:169.4). This ratio is considered to be satisfactory.

10.2 Comments

There was a very friendly atmosphere and cooperation between teaching and support staff.

The visitors were impressed with the enthusiasm, commitment and expertise amongst the staff and were greatly impressed at the growth of activity in recent years. The small animal department is well staffed in a number of disciplines e.g. neurology, internal medicine, cardio-respiratory diseases, soft tissue surgery and anaesthesia. However, for dermatology, ophthalmology, dentistry and oncology teaching, some clinical consultation is provided by part-time visitors and staff. While this arrangement ensures teaching availability for the students, it constrains the development of the clinical department for small animals. The department needs to define its aims for future development to included how it plans to develop the disciplines listed above so that adequate staff are permanently available to ensure teaching, clinical services and research availability. This will also impact on the requirement for accommodation within the department as discussed in chapters 2 and 6.

The visitors were surprised to see that there was only one ancillary support staff member allocated for veterinary nursing duties in the small animal clinic and two others with duties in the kennel areas. This resulted in veterinary staff being required, with student help, to carry out many tasks which could be more efficiently carried out by 'veterinary nurses' or staff with nursing skills.

Although the visitors were made aware that there is currently no provision for training veterinary nurse support staff within Belgium, they felt that either a professional training programme should be developed or the faculty should be training suitably qualified personnel who would be available to work alongside veterinary staff in the small animal and equine clinics. This would result in more efficient use of veterinary staff in all areas of the small animal clinic and allow the case load to increase without the need for extra veterinary staff.

In the small animal departments, it is necessary to have academic staff specialising in a number of important disciplines (see also chapter 4). It is also important to have a minimum of three staff in each major discipline to allow cover for teaching undergraduates and postgraduate research and clinical activities at all times.

The visitors noted the plan for building a new facility for exotic animals, poultry and birds. However, it was the visitors' opinion that exotic pets and non commercial animals should be accommodated within the small animal department and activities relating to commercial poultry within the farm animal departments.

10.3 Suggestions

10.1 The Faculty should explore with the profession, the need for veterinary nursing support staff and should assist in the training and provision of such persons.

10.2 The Department of Medicine and Clinical Biology of Small Animals should develop a plan and set out its aims for a fully equipped and fully staffed department in all the major disciplines to ensure a capability for teaching clinical activity and research.

11. CONTINUING EDUCATION

11.1 Findings

Permanent education has undergone a substantial evolution during the last 10 years and continuing professional education (CPE) has been recognised as an important issue at the FVMG, with a special body being established for this purpose in 1992. The Institute for Permanent Education (IPE) organises several courses for CPE. The IPE has a director, two full time secretaries and two part-time veterinarians, one for large animal courses and one for small animal courses. It organises two types of education:

- Modular continuing education (separate courses)
- "Vakdierenarts": intensive training of specialised practitioners in a specific species

Both advanced study programmes receive recognition by the government.

Each year several modules of CPE are organised. Each module deals with a specific subject and varies in duration from one evening to a few days. The subjects dealt with in these modules differ from year to year.

Each module is granted with a certificate of attendance handed out by the FVMG. In the near future the attendance of veterinarians to such permanent education courses will become compulsory in order to achieve the "Good Veterinary Practice" certificate. The purpose of long-term postgraduate courses and specialised practitioner in a specific species courses, is to update and to extend the knowledge of this specific species. The courses take two (ruminant, pigs & horses) or three (small animals) years on a part time basis. Participants of the long term postgraduate course on small animals, are required to keep a logbook of their activities in their practice, to take an examination at the end of each year and to make a thesis. After three successful examinations, a positive evaluation of the logbook and the thesis, a certificate is awarded by the University. Participants of the large animal courses also have to write a thesis and take an examination after the final year. When they are successful, a certificate is awarded by the University.

After each module and after each year of the long term postgraduate courses, an evaluation is made by means of an evaluation form that every participant is asked to fill in. According to the results of these evaluations, all courses are of a high quality.

The revenue from continuing education covers the costs for organising the different training programmes.

Table 11.1: Courses organised by the establishment itself in 2001-2002

Activity	Participants	Hours of theory	Hours of Practice
A) Long term postgraduate course "Vakdierenarts Rund (Specialized Bovine Practitioner)" (second year)	21	66	47
B) Long term postgraduate course "Vakdierenarts Gezelschapsdieren (Specialized Small Animal practitioner" (first year)	23	105	56
C) Separate courses large animals			
Prescription and use of medicines: day 1 & 2	23	16	-
Capture of wildered animals	9	1	2,5
Parasitology in cattle: novelties	39	3,5	-
The use of ovsynch & timed artificial insemination on cattle farms	26	3,5	-
Problems in young stock on beef farms	63	3,5	-
HACCP, what should a cattle practitioner do?	49	3,5	-
Residues in milk; causes and consequences	47	3,5	-
Herd management (cow) (practical)	2	-	3
Case study cows (practical)	15	3,5	-

Bacteriological and parasitological examination of cows; what is possible?	16	3,5	-
The use of ultrasound in reproduction of cows (practical)	12	1	2,5
Tooth problems and navicular bone diseases	12	3,5	-
Update on respiratory diseases (horses)	41	3,5	-
Ataxia in horses	45	3,5	-
Practical radiographic diagnosis (horse)	3	-	3,5
Practical ultrasound (horse)	5	-	3,5
Practical regional anaesthesia for horses	10	-	3,5
Practical dental care (horse)	11	-	3,5
Porcine circovirus type 2 and porcine multisystemic wasting syndrome	79	3	-
Animal welfare and chemical castration	54	4	-
D) S eparate courses small animals			
Respiration problems in dogs and cats	77	6	-
Dermatology: case study: diagnosis and treatment	33	3	-
The internet: use and useful tips for vets	44	1	2
Haematology in small animals	61	6	-
Practical exercise: placement for dysplasia of the hip and the elbow	12	-	3
Contrast medium in practice	36	-	3
Interventional ultra sound	31	3	-
Practical exercise: interventional ultra sound	22	-	3,5
Ear problems in dogs and cats	70	3	-
Practical exercise: ear surgery (dogs and cats)	16	-	3
Tumours and other proliferations in the mouth	33	3	-
Case study: dental problems: diagnosis and treatment	17	-	3
Obstetrics and reproduction in dogs and cats	199	-	6
Canaries and finches	56	6	-
Birds of prey in practice	31	3	-
Case study reptiles: diagnosis and treatment of the most common diseases	34	-	3

Table 11.2: Courses organised by the establishment itself in 2000-2001

Activity	Participants	Hours of theory	Hours of practice
A) Long term postgraduate course “Vakdierenarts Rund (Specialized Bovine Practitioner)” (First year)	21	85	23
B) Long term postgraduate course “Vakdierenarts Gezelschapsdieren (Specialized Small Animal practitioner” (Third year)	29	105	76
C) Separate courses large animals			
Prescription and use of medicines: day 1 & 2 (Ghent)	30	16	0,5
Prescription and use of medicines: day 1 & 2 (Antwerp)	28	16	0,5
Interaction between metabolism and fertility in highly productive dairy cattle	28	3,5	-
Are there still challenges for the cattle practitioner in 2001 and the following years?	57	3,5	-
Minimal invasive surgery in cattle practice	61	3,5	-
Udder health	79	3,5	-
Abortion and neosporosis in cattle	47	3,5	-

Beef cattle and genetics	53	2,5	-
New opinions in modern cattle nutrition	103	3,5	-
Herd management (cow) (practical)	2	-	3
The use of ultra sound in the examination of thorax and abdomen (practical)	4	-	3,5
Case study cows (practical)	9	-	3,5
The use of ultra sound in the reproduction of cows (practical)	6	1	2,5
Some important aspects of medical care for sheep	80	3,5	-
The latest diagnostic techniques for disorders of the locomotor system (horse)	61	3,5	-
Hereditary disorders in horses	42	2,5	-
Practical radiographic diagnosis (horse)	6	-	3,5
General anaesthesia in horses	43	2,5	-
Practical ultra sound (horse)	11	-	3,5
Practical regional anaesthesia in horses	10	1	2,5
Practical anaesthesia (horse)	7		3,5
Practical dental care (horse)	5	-	3,5
Thesis “vakdierenarts varken” (long term postgraduate course ‘Specialized pig practitioner’)	5	-	3,5
Nutraceuticals in the pig farm	38	3	-
D) Separate courses small animals			
Congenital heart anomalies in dogs	37	2,5	-
Endocrine disorders	57	2,5	-
Chronic diarrhoea in cats and dogs	46	6,5	-
Practical exercises in radiology	12	-	3
Neurology: case study	34	2,5	-
Oncology in small animals	43	5	-
Practical exercice: ophthalmologic investigation and ophthalmologic surgery	16	-	8
Case study: orthopaedics	31	-	2,5
Dental care in small animals	43	-	7,5
Practical exercise: dental care in small animals	11	-	3,5
Cytology as an aid for diagnosis in birds and special pets	42	2,5	-
Practical exercise: cytology in birds and special pets	20	6	
Endoscopy in special pets en anaesthesia in birds	40	-	2,5
Practical exercise: endoscopy in birds	24	-	3

***Table 11.1.3*:** Courses organised at the establishment by outside bodies

Activity	**Number of participants**	**Hours of theory**	**Hours of practice**
IPVS (International Pig Veterinary Society)		4 times/year	
Vlaamse Rundvee Practici (Flemish Bovine Practitioners) Vlaamse Paarden Practici (Flemish Equine Practitioners)		once/year 4 times /year	Lectures and workshops
WVPA (World Veterinary Poultry Association)	40	4 times / year	half a day presentations
Veterinary public health (FASF)	50 / module	3 modules 3 times / year	
Physiotherapy in domestic animals (IRSK-wings)	20 / year	2 years of 20 sessions of half a day each (20)	40

The FVMG publishes “The Flemish Veterinary journal” 6 times a year with topics of actual interest, actual case studies and research. The articles are mostly published in Flemish (80%) or English. The journal can be subscribed for 62 € per year.

11.2 Comments

As with the curriculum (see sections 4.1.2 and 4.1.3) and with the possible development of further specialisation at the Faculty, it is important that there should be close liaison on Continuing Professional Education between the FVMG and the outside profession. The team heard no negative comments on this matter from the representatives of practitioners and of employers whom the team met.

11.3 Suggestions

11.1 The faculty should look at increasing its collaboration with other bodies offering CPE, such as the Flemish Veterinary Associations

12. POSTGRADUATE EDUCATION

12.1 Findings

Postgraduate Research Training

The highest academic degree is the doctorate degree (PhD). In order to achieve this degree an extended research programme is required. The results of the research have to be written down in at least 3 publications as first author published or accepted in an international journal with peer review; and in a doctoral thesis. After 4[1] years of preparation, the doctoral script has to be defended in public. PhD students – employed by the University - are expected to help with the teaching programme.

There is a PhD study programme that can be followed but the duration of this programme is difficult to determine because students can go through this programme during their PhD training. To fulfil the programme, a minimum of 60 credits has to be collected. Several activities can be part of the programme. A minimum of 1 credit has to be collected by regular courses, with a maximum of 16-20 points. The other points have to be collected from writing or co-writing publications or presentations in reviewed international journals or on international/national congresses.

In 2002-2003, 79 students were preparing their PhD, of which 56 were following the PhD study programme.

Table 12.1 Number of PhD-Students

Academic Year Starting	Registered PhD-students	PhD-diploma defended
2000	32	9
2001	57	9
2002	78	21
2003	78	5 (Sept-Dec)

Students preparing a PhD receive a yearly grant or a monthly salary depending on the funding organisation.

An average of 15-20% of all graduated students follow postgraduate clinical training, a masters or a PhD during their careers.

Table 12. 2: Postgraduate student composition

	Total number of postgraduate students	**229**
	Male students	95
	Female students	134
	Nationals	204
	Foreign students	25

Postgraduate Clinical Training

As noted in Chapter 6.2, the staff members at FVMG cover a wide range of specialisation and a system of internships and residencies according to the European Board guidelines has been introduced.

Residents can follow an official standard (3 to 5 years) or alternative programme (more than 4 years). The programmes of rotating interns and residents are mainly integrated into the clinical organisation of the Faculty. The final goal of this system is to assure a high standard of all disciplines whereby the resident is encouraged to sit the European examinations at the end of their residency programme.

All interns/residents are financially supported by the University and the departments since they are accepted by the

[1] If the student teaches undergraduate students part-time, then the grant might be prolonged for up to 7 years.

central administration as students. The interns and most of the residents have a study grant and have access to all facilities for students. The FVMG gives one grant per European College whilst the remaining interns/ residents are paid for by incomes from the clinics or other financial resources.

Table 12.3. Distribution of internships at the FVM G

	Number of interns	Responsible departments
Internship small animals (SA)	6	Small Animals / Medical Imaging
Internship large animals (LA)	4	Surgery and anaesthesiology LA, Medical imaging, Internal medicine LA, Reproduction, obstetrics and herd health LA, Ambulatory clinic LA

Table 12.4. Distribution of Diplomates including number of residents of the different European Colleges at the FVM

European College	Number of Diplomates	Number of residents		Duration of standard residency program
		standard	alternative	
ECV Anaesthesia	1	2	3	3
ECV Surgery	2	4	2	3
ECV Diagnostic Imaging	3*	4	0	4
ECV Internal Medicine CA	3**	5	0	3
ECV Neurology	1	3	0	3
EC Animal Reproduction	3	2	0	4
ECV Pathology	1	2	0	3
ECV Comparative Nutrition	1	0	0	5
EC Laboratory Medicine	1	0	0	3
ECV Public Health	2	0	0	3
ECV Pharmacology and Toxicology	1	0	0	3
EV Dental College	1	0	0	3
ECV Parasitology	3	0	0	3
EC Equine Internal Medicine	1	0	0	3

* one Dipl accepted by ECVSurgery; ** also Dipl of American College of Veterinary Internal Medicine - CA (n=2)

12.2 Comments

The number of PhD-thesis and their quality is commendable, also the ratio of postgraduate veterinarians to non-veterinarians.

The visiting team recognise that the PhD students feel quite happy with their situation but they spend too much of their time involved in teaching (up to 100 % in their first year). Residents and interns are also expected to support teaching.

The grant received by residents and interns is rather low and this should be improved.

12.3 Suggestions

None.

13. RESEARCH

13.1 Findings

Ongoing research projects in all departments of the FVMG constitute an important source of new information which is used by all teachers to support better quality of teaching. The Faculty considers research to be an important factor in maintaining high standards of University education.

Most of the research projects conducted by the academic staff of the faculty are directly related to their teaching responsibilities , this also applies to most of the postgraduate students up to PhD level.

The vast majority of the research projects are funded by regional governments, the federal government, the European Commission and private companies. Recently Ghent University has created its own research fund, giving grants also to the FVM G. The numerous publications of all the departments during the last two years are an indication of the high standards of the continuing research in the Faculty and its recognition by the international scientific community.

Since the academic year 1996-1997, all postgraduate students of the FVM G have to make an end-of-study thesis. The topic of this thesis is usually related to the option the student has chosen in his or her final year. In the option "Research & Industry" the thesis includes a substantial amount of hands-on experimental work and it accounts for 27 credits. In this option, the students spend 810 hours on their thesis. In the other options, the thesis may or may not include hands-on experimental work, carried out personally by the student. If the thesis does not include any experimental work, then it is a thorough literature survey on a given topic. The thesis in these other options account for 12 credits. The students in these options spend approximately 360 hours on their dissertation.

Every thesis is written under the supervision of a senior (major) mentor and in some cases also by a second mentor. The latter is the case when the work on the thesis is carried out outside the Faculty. In these cases, the major mentor can be from outside the faculty but the second mentor needs to be a full professor (belonging to the teaching staff). Every year all members of the academic staff of the faculty are asked to propose a number of thesis titles for which they are prepared to act as mentor. Students can choose from this list. However, students can also propose a title of their own choice that may involve a mentor from outside the Faculty. Students can also ask an academic staff member to be their senior mentor. The mentor is directly responsible for the experimental work carried out by the student. The thesis is laid down before the first exam session. For each thesis a jury is appointed. It is composed of the major mentor, the second mentor (when applicable) and two other members. This jury evaluates the thesis and gives marks.

All the procedures and instructions concerning the thesis are laid down in a manual, written by the thesis committee of the faculty. This manual includes detailed instructions on how to write a thesis and on the lay-out of the document.

Table 13.1: Composition of the training programme for a PhD in Veterinary Sciences

	Number of study points per unit	required
A. Courses		min 1
B. Other activities		min 20
B.1.a. Scientific publications in international journals with		min 16
impact factor $\geq$ 0.3 with referee system (published or in press)		
- 1st author	6	
- 2nd author	4	
- 3rd or next author	2	
b. Scientific publications in journals with impact factor < 0.3		
- 1st author	3	
- 2nd author	1	

c. An article in proceedings* of an international congress - 1st author - 2nd or next author d. An article in proceedings* of a national congress - 1st author e. An abstract* in an international congress - 1st author - 2nd or next author f. An abstract* in a national congress - 1st author g. Books – (co)editor; article in a journal without referee system; Key-note lecture in a congress or international congress of diploma of "diplomate of the European College of..." obtained by exam	 3 1 2 2 1 1 Individually determined	
B.2. Trainings and studies - Studies in other universities or scientific institutions in Belgium or abroad, of which the scientific value is recognized by the doctoral committee - per week	 2	
B.3. Guidance of students - for making a bachelor or master thesis (promoter or copromoter): - with research - only review of literature	 3 1	
B.4. Presentations - Oral presentation during an international or a national congress	 1	
B.5. Organisations - Organizing congress & symposia	 Individually determined	
TOTAL (A+B)		min 60

13.2 Comments

During their undergraduate training the students hear a lot about recent research. Nevertheless, it is difficult for them to know exactly what it means to do research. Only those students who carry out experimental work themselves when preparing their thesis really get the feeling of what research is all about. Moreover, students in veterinary medicine do practical laboratory work during their training. This is to some extent a handicap for those who want to go into research after graduation. It is obvious that persons with a veterinary degree who at the same time do have laboratory experience, are in demand, for example, in the pharmaceutical industry. Most veterinary students are initially only interested in clinical work. It is during and sometimes after their studies that some take an interest in research. This interest is certainly stimulated when they follow the undergraduate option "Research and Industry".

It will probably always be a relatively small minority of the veterinary students who will make a career in research. Since the research laboratories of the FVMG cannot cope with large numbers of students, it is difficult to introduce all veterinary students to research early on during their studies.

Also veterinarians with a PhD degree from the FVMG, with clinical experience, are used either by the Faculty or in professional areas with a very promising future related to productive animals, companion animals and horses.

13.3 Suggestions

None

CONCLUSIONS

The Veterinary Faculty of Ghent has many admirable features. It occupies a large campus on the outskirts of Ghent, immediately adjacent to a motorway system which provides easy access to the Faculty from large towns such as Brussels, Antwerp and Bruges. Its buildings are modern and well constructed and provide good space for teaching and research for most of its departments and services. Teaching and research equipment is universally of good quality. The standard of research at the Faculty is high and the outward looking policy of the staff towards funding from research and client services makes it possible to subsidise teaching activities quite extensively. The atmosphere at the FVMG is informal and friendly. From comments received by the team throughout the visit, it is a pleasant place in which to work and to learn.

Inevitably, there are weaknesses. Two important ones, which are outside the control of the Faculty and the University of Ghent are the excessive numbers of students because of the lack of a numerus clausus and the inability of the Faculty to assess the educational suitability of candidate students before they start the veterinary course. Both of these weaknesses are the result of political decisions.

Politics are also responsible for a further weakness which affects the Faculty's student numbers. The University of Antwerp ("Universiteit Antwerpen") has the right to provide a basic science course of three years to students who subsequently have the right to be accepted by the FVMG for the clinical part of the veterinary course that starts in the fourth year. The adverse impact of this double weakness regarding student intake at the Faculty is not confined solely to the total number of students. It leads also to marked fluctuations in student numbers year by year. Sensible planning of teaching and of resources is difficult in such circumstances.

Rectifying another important weakness does rely upon the Faculty itself, with the support of the University. The buildings were planned on the basis of clinical work predominantly in large animals. Large animal work has not noticeably increased, whereas companion animal work has. Moreover, future expansion is more likely to be in companion animal work. In general terms, the large clinical building has adequate space for all species but there is an imbalance in the allocation of space which should be rectified. Companion animal clinical activity is already being carried out in cramped conditions. The situation can only become worse. A redistribution of space is needed.

Another admirable feature of the FVMG is that it has autonomy over its own curriculum. The visiting team welcomes the Faculty's proposals to develop a new 6 year curriculum with "tracking" for the last one and half years of the course. The Faculty is firmly of the view that it is no longer realistic to try to produce the omnicompetent veterinary graduate in the basic undergraduate course, even of 6 years. Many other veterinary faculties in Europe are reaching the same decision and are introducing tracking in one form or another. Some countries have taken this development to its logical conclusion of graduates being registered for employment only in their chosen track.

Ghent will, however, face the same problem as elsewhere – meeting EU legal requirements on veterinary education, which at present demand minimum all-round competence. Many of the suggestions in this report are intended to help the FVMG to develop an internal structure which will facilitate the creation of tracking while maintaining the maximum elements of a general course. These suggestions include, among others, a more integrated vertical structure, fewer departments, reallocation of space in the clinical areas, widening the course in food hygiene and readjusting the allocation of teaching hours in order to gain the teaching time needed to develop problem based learning at the Faculty. Some sections of the Faculty need more teaching staff to facilitate the 6 year curriculum and to extend the specialised skills that the Faculty can offer to practitioners, public services and industry.

In the view of the visiting experts, the teaching provided by the Veterinary Faculty of Ghent meets the requirements of the EU directives. The team recommends that the Faculty should be included on the EAEVE list of evaluated and approved veterinary teaching institutions.

SUMMARY OF SUGGESTIONS

1/ Suggestions which, if not implemented, mean that the establishment does not reach the minimum level specified in the EU veterinary training directives (Directive 78/1027/EC and its appendix) as interpreted in the 'Guidelines, requirements and main indicators' (contained within document XV/E/8488/2/98).

In the view of the visiting team, there are no suggestions in this category.

2/ Suggestions whose implementation does not effect the œnformity of the teaching at the University with EU veterinary training directives as interpreted in the 'Guidelines, requirements and main indicators'.

1. OBJECTIVES

1.1 There should be a means of measuring and monitoring the Faculty's objectives so that they can be updated if necessary.

2. ORGANISATION

2.1 The clinical departments should be restructured so that both space and teaching time can be released to the advantage of the small animal clinic and the development of Problem Based Learning.

3. FINANCES

3.1 The Faculty should have a plan for financing its intended future developments in teaching and services Additional staff and facilities will be needed to develop certain specialisations and to introduce Problem Based Learning.

4. CURRICULUM AND TEACHING

4.1 GENERAL

4.1 Lessons in basic economics, practice management and communication skills should be considered.

4.2 A more structured approach to curriculum development should be considered, with the involvement of both FVMG staff and the veterinary profession.

4.3 Lessons in quality assurance and quality management systems should be considered in order to give the students a basic knowledge of working with these systems either in practice/clinic (GVP), laboratories (GLP) or in the field of food safety (HACCP).

4.4 Basic animal handling should be taught in the second year of the first cycle, together with an obligatory period of EMS. Leaving animal handling until the fourth year is considered to be too late (see also suggestion 4.9 and 5. 2).

4.5 The team suggest that a group is formed for regular discussion of the curriculum and that it includes representatives from FVMG, the veterinary profession and employers of veterinarians.

4.6 There should be improved integration between the basic and clin ical subjects (see also suggestion 4.8).

4.2 BASIC SUBJECTS AND BASIC SCIENCES

4.7 Hours in anatomy should be reduced and should concentrate more on clinical anatomy and improved integration /coordination with bio imaging.

4.8 Better vertical integration of basic and applied subjects is required (see also suggestion 4.6)

4.9 Students should be introduced to handling live animals during the first cycle, possibly by using the farm and

slaughterhouse facilities (see also suggestions 4.4 and 5.1 and section 4.3.2). A knowledge of animal handling could also help the students in their choice of option.

4.3 ANIMAL PRODUCTION

4.10 Students who want to work with both large or small animals would appreciate the opportunity to work with farm animals during the first cycle in order to help them with the decision of following either the large or small animal track. The Faculty should provide this opportunity.

4.11 Animal housing and animal hygiene (such as climate control and animal environment) should be a discipline of the Zootechnic Institute and taught by a veterinarian, working in close collaboration with the Faculty of Agriculture.

4.12 Animal production should be more integrated with the case studies in the 6th year options “Ruminants” and “Pigs, Poultry & Rabbits”

4.4 CLINICAL SCIENCES

4.13 Some of the subjects currently taught in the second cycle should be taught in the first cycle of the course as this will result in a more integrated curriculum. Animal handling and management, basic principles of surgery and diagnostic imaging are subject areas which need to be considered for such integration.

4.14 The lack of space and large size of student groups in the small animal clinic needs to be addressed (see also section 6.2).

4.15 A mobile clinic for commercial poultry and rabbits should be developed within the current Mobile Clinic so that students can obtain practical experience in herd and flock visits (see also suggestion 6.7) .

4.16 Students should receive teaching in practice management, communication skills and practice structure; also in veterinary certification and prescription writing.

4.5 FOOD HYGIENE

4.17 The subjects taught in food safety control must include practical training in meat products, including poultry, milk, milk products and fish. For this, an increase in hours, as stated in the planned future curriculum, is necessary.

4.18 The experimental slaughterhouse should be renovated in order to permit increased commercial use of the slaughterhouse which in turn, would bring about greater economic and teaching benefit i.e. more outside commercial income and more carcasses.

4.19 The laboratories in the department of Veterinary Public Health should be used more for teaching and research, thus attracting more research grants and enabling the employment of more staff.

5. TEACHING: QUALITY AND EVALUATION

5.1 Teaching time to help to develop PBL should be created by improving the internal organisation at the FVMG.

5.2 More time needs to be allocated to hands-on teaching (see also suggestions 4.4 and 4.9).

5.3 The faculty should consider increasing the use of external examiners for undergraduate students to ensure impartiality.

5.4 There should be correlation of examinations between the University of Antwerp and FVMG for the first cycle of training with teachers from the FVMG participating in the structure and content of examinations for students at the University of Antwerp.

6. PHYSICAL FACILITIES AND EQUIPMENT

6.1 A Faculty-wide computer network should be re-established, with the aim of developing a single database system which could be accessed by all departments on the campus (see also suggestion 8.3).

6.2 There should be better integration and more use made of the Zootechnical Institute.

6.3 The proposals for introducing 'tracking" in the new curriculum and for the development of Problem Based Learning, have implications for the future allocation of space throughout the Faculty. The FVMG should soon begin to assess its future needs in this matter, looking 10-15 years ahead.

6.4 The Dean should instigate a root and branch review of the current and future accommodation requirements of all the clinical departments, with the aim of determining the optimum use of the current accommodation and that which is planned, so that none of the clinics will be restrained by lack of accommodation for their clinical work or their staff.

6.5 Urgent consideration will need to be given to increasing the accommodation in the small animal department.

6.6 The Faculty should consider the provision of a central laboratory for the use of all the clinical departments (see also chapter 2) and the staff should include the appointment of a clinical pathologist (haematology, biochemistry etc.)

6.7 The team suggests that the commercial poultry and rabbits facility should be integrated within the Farm Animal departments, in particular the Mobile Clinic (see also suggestion 4.15).

6.8 The review of the Department of Medicine and Clinical Biology of Small Animals, (see suggestion 10.2), must include the incorporation of small animal orthopaedic surgery.

6.9 The activities of the exotic pets and non-commercial animals now being carried out within the sub-department of exotic animals and poultry, should be integrated within the small animal department.

6.10 The Faculty needs to have discussions with the Department of Medicine and Clinical Biology of Small Animals, to see how its future plans can be accommodated, possibly within the current clinical building in the short to medium term, in addition to its needs for the long term.

7. ANIMALS AND TEACHING MATERIAL OF ANIMAL ORIGIN

7.1 The curriculum should be changed so that basic handling of animals takes place during the first or second year of training, rather than during the second cycle of training (see also suggestions 4.4 and 4.9).

7.2 It would be advisable for 6th year students to visit a practice or/and a health service and to undertake practical work rather than laboratory work, for a minimum of 4 weeks. This will help to prepare them for work after graduation.

8. LIBRARY AND EDUCATIONAL RESOURCES

8.1 The amount of material available in the central library needs to be improved to enable students to have a central resource

8.2 There needs to be an updated central registration of books kept in departmental libraries and this should be regularly checked by the library staff.

8.3 There should be an integrated database assembling the elements from different departments. The Computer Commission could be reactivated for this purpose (see also suggestion 6.1).

9. ENROLMENT AND ADMISSION REQUIREMENTS

9.1 There should be closer contact between the FVMG and the University of Antwerp throughout the first cycle of studies as to the number and competence of their students.

9.2 Although the visiting experts know that it is a political issue, they recommend that the Flanders' authorities consider introducing a form of educational assessment of school leavers applying for veterinary studies at the FVMG and at the University of Antwerp.

10. ACADEMIC AND SUPPORT STAFF

10.1 The Faculty should explore with the profession, the need for veterinary nursing support staff and should assist in the training and provision of such persons.

10.2 The Department of Medicine and Clinical Biology of Small Animals should develop a plan and set out its aims for a fully equipped and fully staffed department in all the major disciplines to ensure a capability for teaching clinical activity and research.

11. CONTINUING EDUCATION

11.1 The faculty should look at increasing its collaboration with other bodies offering CPE, such as the Flemish veterinary Association

12. POSTGRADUATE EDUCATION

None

13. RESEARCH

None