

SELF EVALUATION REPORT

STAGE 2

FACULTY OF VETERINARY MEDICINE

GHENT UNIVERSITY

2013



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1 CHAPTER 1 - POLICY STATEMENT

1.1 Factual information

The Faculty of Veterinary Medicine (FVMG) is one of the eleven faculties of Ghent University (UGent). The overall objectives of UGent are listed in its mission statement (<http://www.ugent.be/en/ghentuniv/mission.htm>).

Ghent University

- distinguishes itself as a **socially committed and pluralistic** university that is open to all students, regardless of their ideological, political, cultural or social background;
- defines itself in a broad **international perspective**, all the while accentuating its individuality in terms of language and culture;
- aims to encourage its students to adopt a **critical approach** within a creative, development-oriented educational and research environment;
- offers a broad spectrum of high-quality **research-based educational programmes** that are constantly being adapted to the most recent scholarly and scientific developments;
- aims to develop in a selective manner the **advanced degree programmes**, as well as postgraduate and permanent education;
- aims to situate its educational and research activities within the broader social context and to remain in continual **dialogue with all parties** concerned;
- aims to promote and further develop fundamental **independent research** in all faculties and to be a world player in the selected fields of endeavor;
- aims to be an **enterprising** university with a focus on the social and economic applications of its research findings;
- attaches particular importance to the **social facilities** made available for students;
- creates a **stimulating environment** for its staff and provides them with the fullest scope of opportunities for developing their potential;
- attaches particular importance to the **participation** of students, staff and social representatives in the formulation of policy;
- desires strong interaction with its **alumni**;
- opts for a **decentralised**, dynamic organization model.

The FVMG adheres to this mission statements and implements them in its triple dedication (see [faculty brochure](#)) - education, research and service to the community - in all matters dealing with the life and health of animals, including the sanitary quality control of animal products.

Research and service to the community are of major importance to the FVMG. Scientific research is a top priority for all departments, and large quantities of personnel, time and finances are invested in a wide range of research fields. As a service to the community, all staff members consider it both a duty and a privilege to share their scientific and clinical expertise by active participation in academic and professional advisory boards and committees on regional, national and international levels.

Providing high quality education however remains the first and most important objective of the FVMG. Education at the FVMG is composed of undergraduate teaching and postgraduate teaching. The main objective of the FVMG is to provide both a scientific academic education and a professional training to the veterinary students, offering the skills and attitudes that graduated veterinarians need to easily adapt their services to the fast changing demands of the public. These services include the medical care of animals, veterinary public health control, and research in all domains related to veterinary medicine and animal welfare. Postgraduate teaching comprises the continuing professional development courses for the profession and the postgraduate tracks, including the Doctoral (PhD) dissertation programme, and the internship and residency trainings.

1.2 Relationship between teaching and research

In a regular career track at UGent, lecturers have to give proof of being qualified researchers. New lecturers normally have at least 2 years of experience as post-doctoral (PhD) researcher. They will then usually enter a tenure track as professor in the rank of lecturer for a 5-year period with a focus on research but always with a teaching assignment. This teaching assignment can be rather limited or substantial, depending on the function assignment. At the start of this period, personalized teaching and research objectives are determined in consensus with the lecturers. When these objectives are met after 5 years, the lecturer can enter the permanent staff as professor with the rank of senior lecturer. In this way, only qualified researchers can qualify as university lecturers. This path ensures that teaching and research are strongly integrated since researchers are teaching and teachers are performing research. Therefore, the UGent study programmes aim to be research-based, as is mentioned in the mission statement of the university.

Undergraduate students receive in their curriculum opportunities to discover and actively participate in research activities. Additionally, the FVMG has taken initiatives over the past couple of years to provide extra-curricular research-oriented opportunities to students with a strong track record and/or strong motivation. The purpose of these initiatives is to provide undergraduate students with the opportunity to further deepen their knowledge and come into contact with clinical and fundamental research at an early stage during their studies (bachelor years).

Intra-curricular opportunities to obtain training in research are listed below

- In the 3rd year of the Master's programme, a specific track is dedicated to **research**. In this track, our best researchers share their experience with the students.

- The **Master's dissertation** corresponds with 30 credits (= a total study time spent of 900h) and consists of two parts (see chapter 8).
 - o In the first part of the dissertation, the students have to write a scientifically formatted literature review on a subject of veterinary relevance, under guidance of 2 members of the academic staff of the FVMG, of which at least one is a member of the autonomous academic staff ("ZAP") or a postdoctoral/senior doctoral (PhD) researcher.

- In the second part of the dissertation, the students have the opportunity to perform a scientific research project in one of the laboratories or clinical departments of the FVMG or an external institute. This scientific research project is mandatory for students from the track “Research”.
- Students are encouraged to make a full **publication** of the results of their Master’s dissertation to be published in the Flemish Veterinary Journal (see chapter 5).

The following extra-curricular opportunities for research training are offered to students (see chapter 8)

- Since the academic year 2009-2010, the departments of the FVMG provide opportunities for undergraduate students to take part in **one-week summer training sessions**, covering a very wide array of (fundamental and clinical) veterinary topics. Available places are offered to 2nd and 3rd year bachelor students with a strong track result (average score $\geq 750/1000$) and to all motivated 3rd year bachelor students. Each year, ± 50 students participate to these training sessions.
- Since the academic year 2010-2011, very promising and highly motivated 3rd bachelor year and 1st master year students are stimulated to apply for participation at **international research-oriented veterinary summer schools**, such as the Cornell Veterinary Leadership Programme (Cornell University, USA) and the Fundamentals of Veterinary Science summer school (Cambridge University, UK). This initiative has led to the successful application of the first FVMG students at both of these summer schools, with very positive feedback by the participating students.
- Since the current academic year 2012-2013, the biomedical-oriented faculties of UGent (FVMG, Faculty of Medicine, and Faculty of Pharmaceutical Sciences) have started a pilot project to initiate a **‘Honours Programme’**. The Honours Programme mainly consists of a 6- to 8-week research training combined with introductory courses on scientific research. Between 5 and 10 of students are yearly selected for participation in this programme.
- Students with an excellent track record or high motivation are approached during their studies by the Chair of the Faculty Research Committee (and by other researchers) who informs them about the possibilities of research and encourages them to postulate for doctoral (PhD) positions or even to start research during their Master’s Dissertation activities that may lead to a Doctoral dissertation.

1.3 Faculty’s strategy for quality and standards

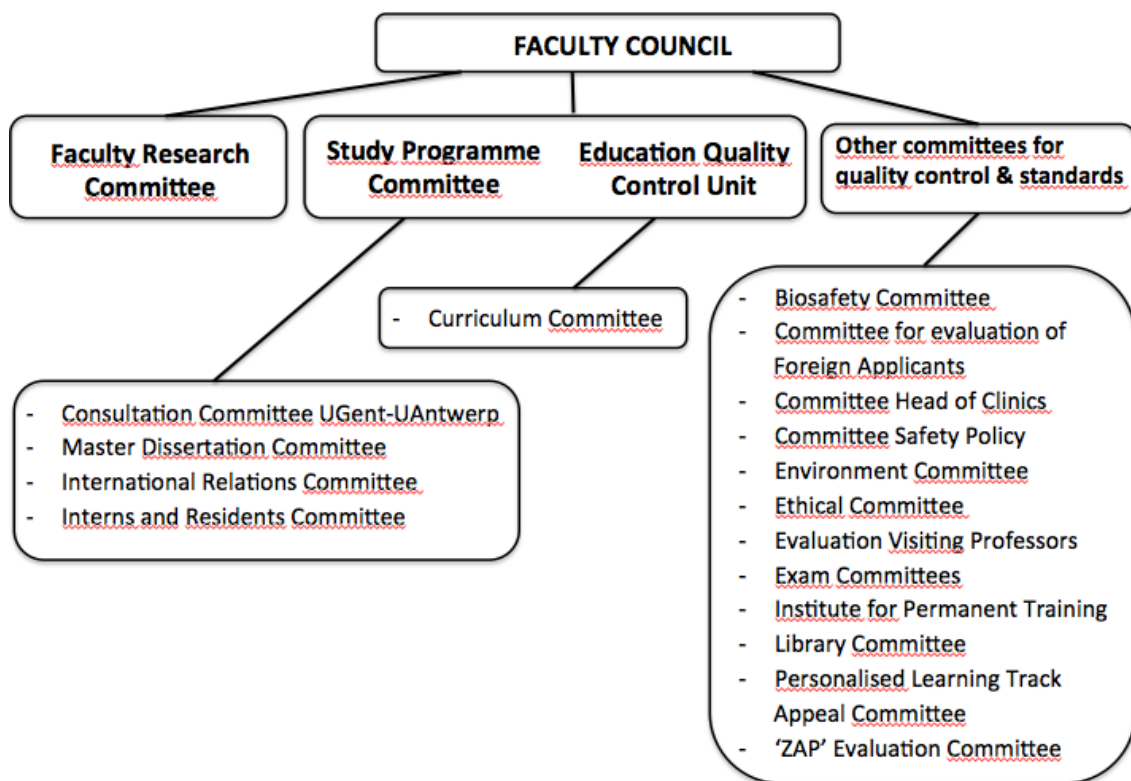
The faculty’s strategy for quality and standards is based upon and under control of the guidelines of the central administration of UGent.

Both for research and education, UGent has created a framework describing the strategy for maintaining and improving quality and standards. The Department of Research Affairs has issued the university research policy including the guidelines for research quality control (<https://www.ugent.be/en/research/organisation>). The quality control and standards for education are regulated and supervised by the Office for

Educational Quality Control which is part of the Department of Educational Affairs (<http://www.ugent.be/en/ghentuniv/administration/dowa>).

These central guidelines have led to the creation within the FVMG of several committees assuring the application and control of the rules and guidelines from UGent (Figure 1.1). All these committees have an advisory role and their advices have to be validated by the Faculty Council.

Figure 1.1: Flowchart of faculty committees in quality control and/or standards



The main committees for quality control for education are the Study Programme Committee and the Education Quality Control Unit.

The **Study Programme Committee** meets and reports to the Faculty Council at least 4 times per year. The Chairman of this committee meets approximately monthly with the Director of Studies, the Dean and two students representatives within the Education Quality Control Unit. The Study Programme Committee acts as permanent advisory body to the FVMG with regard to general policy and the organization of the teaching of the study programme(s)*. It is in charge of defining the learning objectives and overseeing the way in which the educational activities are organized and implemented. Within the revised quality control system of the university, it is also responsible for the evaluation of these learning processes. In addition, the Study Programme Committee is responsible for continuously optimizing the quality of the education on offer.

* in the present document, the term “study programme” will be used to define the general curriculum of the veterinary studies. The term “curriculum” will be used for individual programmes from students.

The **Education Quality Control Unit** supervises the quality control on all educational matters. One of the primary tasks of this unit is the organization, interpretation and follow-up of the educational evaluations of the courses by the students.

The main committee for quality control and coordination of research is the **Faculty Research Committee**. This committee meets and reports to the Faculty Council approximately every month. The main aims are to stimulate outstanding research, to identify future research domains and needs, and to act as an advisory board with the application of grants and in disputes with the requirements of the doctoral examination. This committee not only acts as a supporting body, but attempts to have a proactive role towards the central Research Council of UGent as well as to Belgian and European research authorities. The Faculty Research Committee also acts as an advisory board towards the Faculty Council for all matters related to research.

1.4 Organization and implementation of the quality assurance system

1.4.1 Organization of the quality assurance system for Education

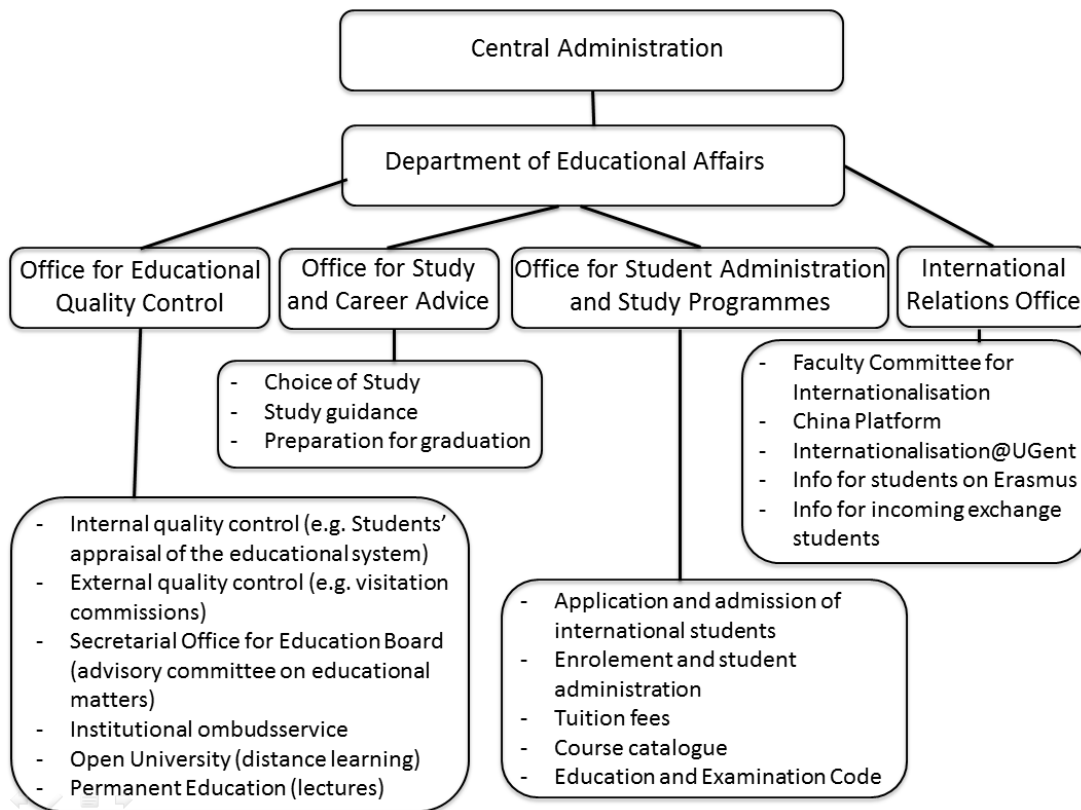
UGent has a strictly outlined structure to guarantee the quality of teaching, both at the level of the university and the FVMG.

1.4.1.1 *At the level of the university*

The Department of Educational Affairs is in charge of all matters of education. It includes four Offices: the Office for Educational Quality Control, the Office for Study and Career Advice, the Office for Student Administration and Study Programmes, and the International Relations Office (Figure 1.2).

The Office for Education Quality Control assures internal quality control with a major participation of the students who are involved in all steps of quality control. This office coordinates the legally prescribed external quality controls of the study programmes. Therefore it offers help in preparing self evaluation report and organizing the visits of external peer review panels (*visitatie commissies*). It also offers the service of Institutional Ombudspersons who helps the students in case of conflict of any origin with members of the permanent staff of the university or a faculty in general. Next to these tasks, the office also provides distance learning and permanent education. Finally, an advisory committee on educational matters is available for all staff members and students.

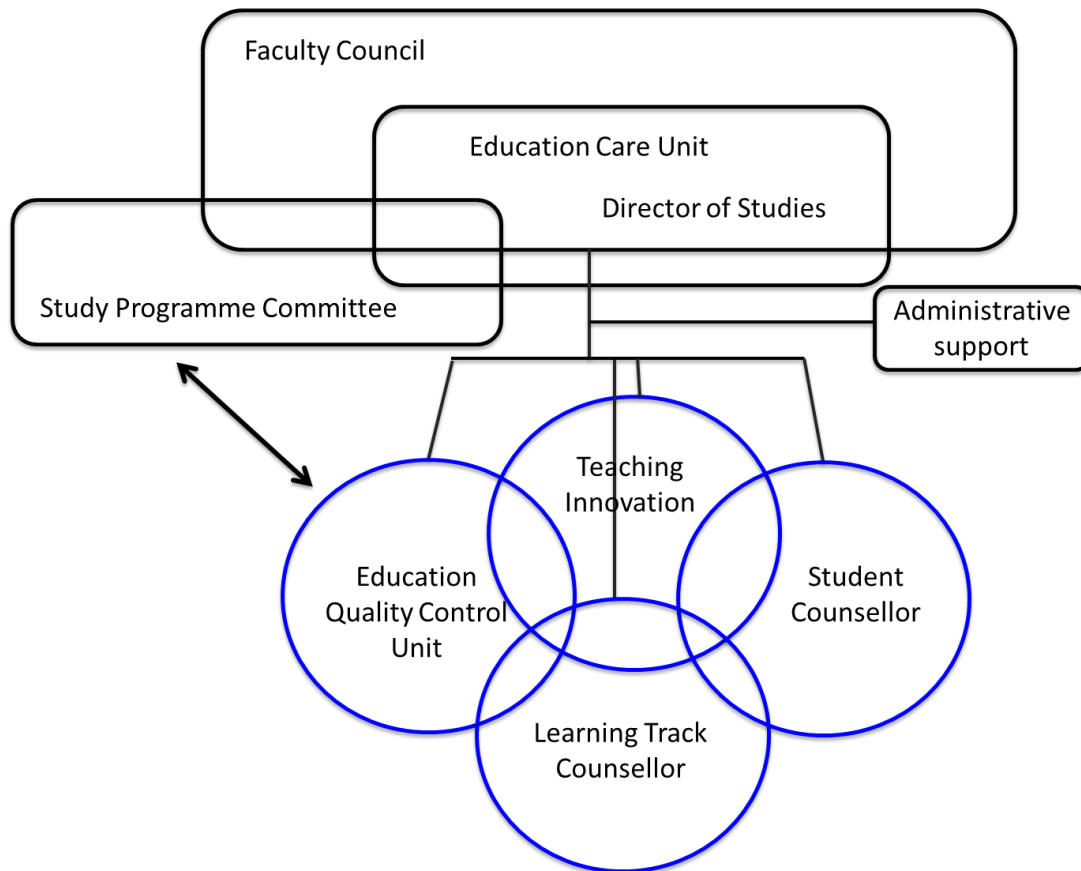
Figure 1.2: Flow chart of the structure of the Department of Education Affairs of UGent.



1.4.1.2 At the level of the faculty

At the level of the FVMG, the Education Quality Control Unit and the Study Programme Committee organize the quality control of the study programme using various methods (Figure 1.3).

Figure 1.3: Flow chart of the quality control mechanisms of the study programme inside the FVMG.



The Education Quality Control Unit evaluates each member of the academic staff and each course at least once every 3 years through an anonymous electronic survey filled out by the students. This evaluation is predominantly a measure for the quality of teaching and includes the teaching style, the course content, the organization of the course, the teaching material and the examinations. An example of a questionnaire is included in annex 1.1.

The results of these evaluations are discussed within the Education Quality Control Unit in the presence of student representatives, and are reported to the lecturer, the Head of the Department and the Chair of the Study Programme Committee. The final evaluation report of the teaching process is added to the lecturer's personal education file and can be consulted by promotion committees. Whenever the Education Quality Control Unit judges that improvements are possible or needed, a meeting with the lecturer is organized to discuss and monitor possible ways of remediation. In these cases the course is re-evaluated the following year to follow up the effects of the changes. In cases of continuing problems with the quality of teaching, the department involved can be requested to propose another lecturer.

The Education Quality Control Unit is also responsible for the organization of the study time measurement, which is performed at least after each study programme update to evaluate the study load of each course. This allows to monitor and avoid an excessive study load per course and hence in the overall study programme.

The Study Programme Committee organizes a survey of the alumni every 6 years. This survey gathers information concerning the quality of teaching content and teaching methods with respect to the needs of the profession.

1.4.1.3 Involvement of the students in quality assurance

UGent structurally regulates the participation of students in the development of the study programme and all quality assessment activities. All committees related to educational affairs must include students' representatives.

At the university level:

- The Council of Educational Affairs, which is the primary advice organ for education for the Board of Governors, must include 8 students with voting rights (out of 26 voting members) (decision of the Board of Governors of 28-03-2003).
- The Board of Governors, which has to approve all advices from the Council of Educational Affairs, must include 4 students with voting rights (out of 34 voting members
(<http://www.ugent.be/nl/univgent/bestuur/bestuursorganen/rvb/overzicht.htm>).

At the faculty level:

- The Study Programme Committee, which is the primary body for study programme development and monitoring, has to include at least one third of students with voting rights (Education and Examination Code - EEC, Article 34).
- The Education Quality Control Unit has to include at least 2 students (EEC, Article 97, §5).
- The Faculty Council, which has to approve all advices from the Study Programme Committee and Education Quality Control Unit, must include a maximum of 25% of students (decision of the Board of Governors of 24-05-1996).

As described in chapter 5.3, students are the main actors involved in the evaluation of the individual courses, lecturers and the global study programme. This is mainly done by electronic surveys in which the participation of students is not mandatory but strongly encouraged. These evaluations are only valid if a statistically relevant participation is achieved. Several methods are used to motivate students to participate e.g. reminder mails through Minerva, recruiting activities by students representatives, calls during lectures,

1.4.2 Organization of the quality assurance system for research

1.4.2.1 At the level of the university (for more detailed info see Chapter 8).

UGent aims to be an internationally recognized research institute and therefore a clearly defined research policy and a system for quality assurance, are needed.

An important recent development in the field of research policy is the strive for excellence by focusing on niche areas and prioritizing certain fields.

In the context of this ambition, the Board of Governors of UGent approved in 2009 a strategic research objective to steer the university's growth, and to prioritise quality objectives in the following growth path

(<http://www.ugent.be/en/research/organisation>):

- Firstly, each faculty is expected to draw up a global research plan.
- Secondly, UGent invests in about 5 multidisciplinary research partnerships.
- Thirdly, a number of individuals will be awarded an excellence label and a prominent position in Ghent University's corporate communication.

The Research Policy Plan is an integral part of the general strategic plan of UGent. The goals of the Research Policy Plan are to further develop the UGent's mission, its general educational, research and service ambitions and its strategic goals for research and research policy.

The Research Coordination Office plays an important role in the dissemination of information on funding, procedures and regulations. Its staff members follow up on national and European policy initiatives, and are actively engaged in policy research. They also provide support to the Ghent University Research Council and the Committee for Development Cooperation of UGent.

An important aspect of the Research Policy Plan is a more stringent and objective Research Quality Control System. UGent has implemented several methods to guarantee a high standard of quality of research. Every 4 years, UGent commissions a bibliometric analysis and these data are used to benchmark the UGent scientific output with other universities. The results of these analyses can be used for adaptation of the UGent Research Policy.

Since 2011 UGent organizes internal research visitations during which an international peer review panel evaluates selected research groups or disciplines based on a self-evaluation report and site visits.

Additionally, the process as well as the product of research are at regular intervals the subject of evaluation by e.g. the Commission for Scientific Integrity ([Commission for Scientific Integrity](#)) and the Interuniversity Expert Centre for R&D Monitoring ([ECOOM](#)).

1.4.2.2 At the level of the faculty

The quality assurance of the research performed at the FVMG is conducted at 3 main levels:

- For the research projects, quality assurance is partly based on the output, e.g. publications and Doctoral (PhD) dissertations, and partly on reports and regular meetings with stakeholders.
- The quality of the research performed by doctoral (PhD) researchers is assured by Doctoral Schools at UGent level, and by the Faculty Research Committee. This latter committee has set minimum rules to obtain the Doctoral (PhD) degree. Furthermore, quality is assured by the installment of a doctoral guidance committee, and a reading and examination committee for each doctoral (PhD) researcher. Moreover, UGent provides a financial research quality bonus to promoters of successfully defended Doctoral dissertations containing high quality publications.
- The results of the bibliometric benchmarking analysis organized by UGent, are discussed within the Faculty Research Committee and the main conclusions and

advices are reported to the Faculty Council and the central Research Coordination Office.

1.5 Ways in which the policy is monitored and revised

The quality control system concerning education is strictly regulated by the central administration (Department of Educational Affairs) and most items and methods are stipulated in the EEC. Although a large part of the quality control is performed by faculty committees, the central Office for Educational Quality Control monitors the procedures and the outcomes. Revision of the quality control policy is therefore in most instances initiated by the Department of Educational Affairs.

The quality control system of research is similarly, although less stringently, regulated by the central administration, more specifically the Department of Research Affairs. Monitoring is mainly performed by means of the bibliometric analysis and the research visitations. Eventual revisions of the university research policy and quality control systems are mainly organized by the Research Coordination Office of the Department of Research Affairs



2 CHAPTER 2 - ASSESSMENT OF STUDENTS, POST GRADUATE EDUCATION & STUDENT WELFARE

2.1 Undergraduate education

2.1.1 Student admission and assessment

The Flemish law regulates student admission. The main principle is that unrestricted access to higher education must be guaranteed for everyone who is holder of a diploma of secondary education recognized by the Flemish government. The list of the diplomas granting access to higher education is published on the UGent website:

<http://www.ugent.be/en/teaching/admission/degreestudent/requirement/diploma>

Firstly, this list includes a large number of Belgian diploma's or certificates that grant access to almost all bachelor studies. This list even includes diplomas obtained in non-related fields, such as music, art or interior design.

Secondly, the list contains a number of foreign diplomas or certificates that allow direct access to UGent.

Thirdly, other foreign diplomas or certificates can also give access to university studies after a positive evaluation by the FVMG and the central administration of UGent.

The detailed procedure can be found at

<http://www.ugent.be/en/teaching/admission/degreestudent/requirement/diploma/bachelor.htm> for the Bachelor's programme and at

<http://www.ugent.be/en/teaching/admission/degreestudent/requirement/diploma/manaba.htm> for the Master's programme.

Further intake regulating measures such as a specific entrance exam or other limitations are not allowed by the Flemish law, except for studies in human medicine and dentistry. Entrance to these latter study programmes depends on the successful passing of an entrance exam. This entrance exam has been installed in 1997 in order to limit the number of human physicians and dentists and hence to control the costs of medical consumption.

Entrance to all other studies remains open, including to Veterinary Medicine. One of the consequences of this open system of admission is that a substantial part of the student population consists of foreign students, mostly coming from countries (mainly the Netherlands) where a more stringent admission procedure is present (Table 2.1).

Table 2.1 Undergraduate students in the academic year 2010-2011.

	Bachelor	Master	Total
Total number of undergraduate students	756	621	1377
Foreign students	212	189	401
From EU countries	211	189	400
From non-EU countries	1	0	1

The main restriction on influx of foreign students at the FVMG is the language requirements. An overview of the language requirements can be found on <http://www.ugent.be/en/teaching/studying/languageofinstruction>.

At the FVMG the language requirement for the undergraduate education is knowledge of Dutch, since all courses are taught in Dutch. A B2 level of language proficiency is required for foreign students before they can enroll in the veterinary medicine studies. This B2 level can be obtained using various ways:

1. A certificate NVA5, awarded by the University Language Centre (UCT) of UGent
2. A certificate B2, awarded by a University Language Centre other than UCT
3. A certificate PTHO (Profiel Taalvaardigheid Hoger Onderwijs) awarded by the "Nederlandse Taalunie, Certificaat Nederlands als Vreemde Taal (CnaVT)
4. Successful passing of the entrance examination medicine-dentistry ("toelatingsexamen arts-tandarts")
5. Successful passing of the equivalence examination for human medicine studies ("gelijkwaardigheidsexamen arts"), organized by the Flemish Inter-university Council (VLIR)

<http://www.ugent.be/en/teaching/studying/languageofinstruction/proficiency/proficiency.htm>.

Obtaining this B2 level however requires more than a basic knowledge of Dutch and therefore the vast majority of foreign students entering the FVMG are coming from the Netherlands and occasionally from Germany. On average, between 25 and 30% of the students at the FVMG comes from the Netherlands.

Admission to the Master's programme in Veterinary Medicine requires a Belgian diploma of Bachelor in Veterinary Sciences or an equivalent university degree or higher education diploma (bachelor of minimum 3 years) obtained in other countries. All foreign degrees or diplomas have to be screened for equivalence and must therefore pass through an application procedure

(<http://www.ugent.be/en/teaching/admission/degreestudent/application>). This procedure will check whether the appropriate competences have been obtained by the previous studies and, if not, either entrance can be denied or a specific preparatory course (between 45 and 90 ECTS credits), depending on the previous studies, can be offered. Additionally, exemptions for specific courses can be granted by the Faculty Council based on acquired qualifications or credits from previous studies.

In general, entrance in the Master's programme by students with a foreign diploma almost never occurs.

However, since the Bachelor in Veterinary Medicine programme is also organized by the University of Antwerp, almost all students who have obtained a Bachelor degree in Antwerp come to UGent to obtain the Master degree in Veterinary Medicine. Since they have obtained a Bachelor diploma in Veterinary Medicine at a Belgian university, they can start the Master's programme at UGent without any further requirements.

2.1.2 Assessment procedures of the performance of enrolled undergraduates

2.1.2.1 Description of the student assessment system

The examination procedure at the FVMG of the UGent is strictly regulated by the [university's EEC](#) (PART III – Examination Code)

The evaluation methods as proposed by the lecturer have to be approved every year by the Study Programme Committee and the Faculty Council. The definitive versions of the evaluation methods are annually published in the course catalogue by June 1th, in order to guarantee that all students are adequately informed before enrolling in the programme. All information on the course, including the evaluation methods, is offered to the students according to the ECTS guidelines. Since these ECTS guidelines are applied throughout the entire university, the UGent has obtained the ECTS label from the European Commission (valid from 2009 to 2013).

Two extracts from the EEC (Article 41: Elements of a course unit – course sheet, paragraph 20 and 22), in which the detailed requirements concerning evaluation and evaluation methods are described, are reproduced below:

“20. Calculation of the final marks and the terms and conditions to pass a course unit: If the examination mark is a function of both continuous and end-of-term assessment, then the marks that are awarded for the continuous assessment are factored in as part of the examination mark according to a fixed calculation that is determined in the course sheet.

For the course units for which the examination mark is calculated on the basis of several evaluations, the course sheet shall specify the exact way the examination mark is calculated before the start of the academic year.

If there are any repercussions for students who are absent without any good reason or who do not participate in (part of) the evaluation, this should also be specified in the course sheet.

All the students that are enrolled for the relevant course unit are subject to these provisions, which are determined by the Faculty Council after the advice from the competent Study Programme Committee and the Director of Studies.

22. Evaluation methods: The methods and contents of the *evaluation(s)* and the way these relate to the learning outcomes (oral, written, open book, multiple choice, etc).

Evaluation methods are determined by the Faculty Council after the advice from the competent Study Programme Committee and the Director of Studies.

Per examination opportunity, a different evaluation method may be planned in response to substantiated exceptions.”

The evaluation methods that are allowed at UGent are described in the EEC (Section II – Glossary of evaluation methods). Every examiner can select the most appropriate evaluation method for his course, as long as it is mentioned in the EEC and yearly approved by the Study Programme Committee.

In general, 2 major types of assessment are used: 'continuous assessment' (permanent evaluation', 'non-periodical assessment', also used as formative assessment) and 'end-of-term assessment' ('assessment by examination during the defined examination periods', 'periodical assessment', mainly summative assessment).

The periods, during which evaluations can be organized, are specified every year by the Board of Governors of UGent and are published in the [academic calendar](#). Basically, at the end of each semester there is a 4 to 6 week end-of-term examination period, during which all teaching activities (except the clinical activities) are stopped.

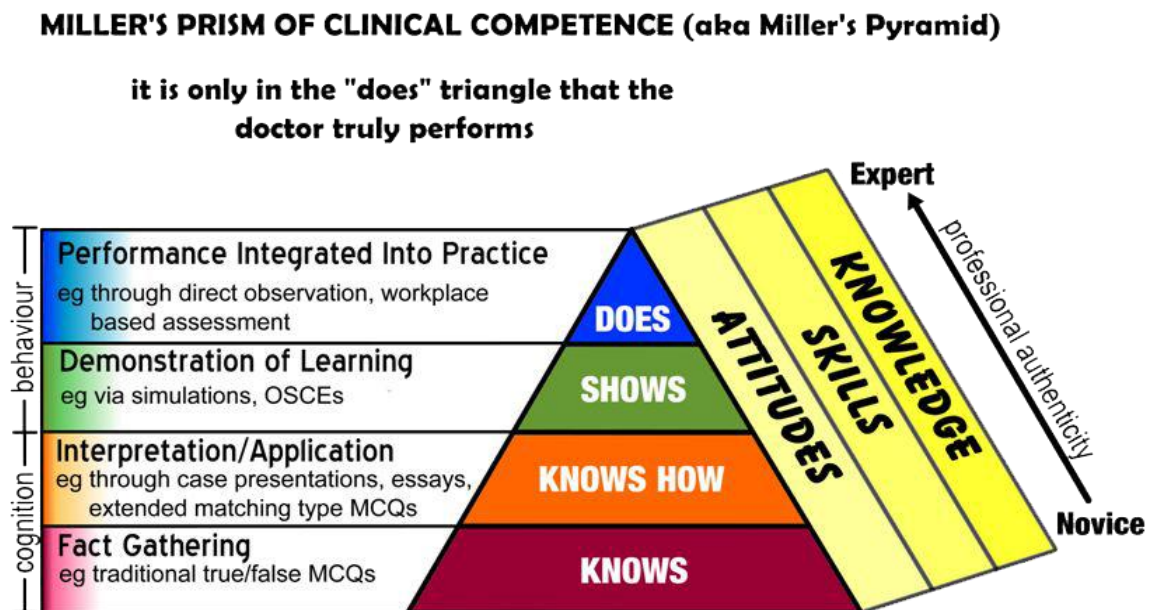
A combination of continuous and end-of-term assessments is frequently used, and the importance of continuous (permanent) assessment increases considerably during the higher years, i.e. during the clinical training.

The evaluation system at the FVMG and at UGent is based on 7 principles:

- *Validity*: every student should graduate after obtaining the learning competencies as defined by the study programme and should therefore be evaluated with the appropriate evaluation methods.
- *Reliability*: the reliability should be guaranteed by the use of standardized methods to evaluate the students' performance.
- *Transparency*: through the ECTS accredited course sheets the students need to be adequately and timely informed on all study related matters, including examination methods and scoring system. Additionally the EEC ensures that lecturers prepare the students for the examinations during the courses by means of relevant information, sample questions and appropriate exercises.
- *Feedback*: feedback is obligatory for all evaluation methods, as mentioned in the EEC according to article 51 §4 and 61.
- *Honesty*: mediation and appeal procedures guarantee the rights of the students. Fraud, plagiarism, etc. are not acceptable and are sanctioned according to the procedures described in the EEC according to article 79.
- *Diversity*: numerous facilities (e.g. alternative exam methods, change of exam dates, voice computer, ..) are available for students with a special status (e. g. functional impairment, exceptional social or individual circumstances, ...), according to article 24 of the EEC.
- *Efficiency*: students and lecturers are correctly, timely and completely informed about all evaluation procedures. The evaluation process is organized efficiently and timely (e.g. fixed examination dates are communicated to the students more than one year in advance).

Both the content and the evaluation methods of the evaluation system at the FVMG have been developed based on the principle of the Miller's Pyramid (Figure 2.1).

Figure 2.1: Miller’s pyramid.



*Based on work by Miller GE. The Assessment of Clinical Skills/Competence/Performance; Acad. Med. 1990; 65(9): 63-67
Adapted by Drs. R. Mehay & R. Burns, UK (Jan 2009)*

During the Bachelor’s programme the main emphasis lies on the evaluation of the acquired knowledge and insight of the students, i.e. evaluation of cognitive fact gathering and interpretation. The methods used for this evaluation comprise a mix of written exams with open questions, multiple choice exams, oral examinations and evaluations during practical exercises, complemented with self-directed learning, group work and presentations.

The evaluation methods are based on the learning objectives of the bachelor’s programme (see chapter 1), ensuring that all competencies are evaluated with the appropriate methods during this study programme.

An overview of the different evaluation methods during the bachelor’s programme is listed in Table 2.2.

Table 2.2: Evaluation methods during the periodical (P) and non-periodical (NP, i.e. permanent) evaluations of the Bachelor’s programme courses.

Evaluation method	Number of courses
Written exam, Open questions (P)	20*
Written exam, MCQ (P)	12*
Oral exam (P)	4
Participation / skills test (NP)	10
Report (NP)	6
Assignment (NP)	3
Performance assessment (NP)	3
Peer evaluation (NP)	1
Presentation (NP)	1

*: 3 courses use a mixture of open questions and multiple-choice questions.

Progressively more oral examination forms are included in the higher years, combined with an increasing amount of workplace based performance assessment, case discussions, case presentations and clinical work (Table 2.3). In this way the evaluation system evolves from testing knowledge (“knows”) towards a testing of performance (“does”) (Figure 2.1).

Table 2.3: Evaluation methods during the periodical (P) and non-periodical (NP, i.e. permanent) evaluations of the Master’s programme (track ‘Equine Medicine)

Evaluation method*	Number of courses
Written exam, Open questions (P)	19
Written exam, MCQ (P)	10
Oral exam (P)	11
Participation / skills test / performance assessment / case discussions (NP)	20
Report (NP)	1
Assignment (NP)	2
Presentation (NP)	3
Dissertation (P)	2

*: most courses use a mixture of evaluation methods

2.1.2.2 Adequacy and validation of the student assessment system

Over the last decade several measures have been implemented to guarantee the quality and validity of the examination system:

Immediately after the summative assessments, the global pass rates per course are checked by the Quality Control Unit for consistency within and over the years. When distinct variations in pass rates are observed, either compared to other courses in that year or compared to the previous pass rates for the course, the lecturer-in-charge of the course is contacted and the results are discussed. Anomalies have occurred in the past when new lecturers were introduced but, in the large majority of cases, these problems could be remediated, usually before the results of the examinations were made public (annex 2.1: Pass rates per course unit in 1st bachelor from 2007 to 2011).

After each exam period, the exam results are additionally checked and discussed by the Examination Committees of each standard learning track year (= part of a standard learning track that is offered within one academic year, as determined in the course catalogue) and by the Examination Committees of the Bachelor’s and Master’s study programmes. They review the individual marks of every student for inconsistencies and they formally validate the exam results, according to the rules of the EEC. During these meetings, the examination methods and policy are also discussed.

Every year the Study Programme Committee reflects on the results of examinations during the previous examination period. The main goal of this reflection is to ensure an optimal study progress of the students by optimizing examination methods and

evaluations. This includes monitoring the presence of an optimal mix of evaluation methods during the study programme, so that all competences mentioned in the competence matrix of the Bachelor's and Master's programmes are adequately evaluated. During these sessions an analysis of the pass rates is also made and compared with the global university pass rates (annex 2.2: Example of report on discussion of exam results in the Study Programme Committee). During these Study Programme Committee meetings other evaluation-associated topics are discussed. An example of this is the approval of the guidelines for use of multiple-choice exams (annex 2.3: Consensus statement on the use of multiple-choice exams).

On a regular basis (at least once every 3 years as imposed by the EEC) every course is evaluated by the students (see chapter 3), including an evaluation of the examination system (annex 1.1: Example of a questionnaire). During these evaluations, students can give their opinion on several aspects of the evaluations by scoring targeted questions, such as:

- Was there sufficient information concerning the evaluation criteria?
- Were the evaluation methods relevant and correct?
- Did the exams evaluate the contents that were emphasized by the lecturer?

Additionally the students can give, anonymously, extra comments on the evaluations. The scoring of the targeted questions and the extra comments are checked by the Quality Control Unit and feedback is given to the lecturer, to the Head of the involved department and to the Chairperson of the Study Programme Committee. In case of problems, remediation will be implied.

The Central Department of Educational Affairs supports the quality and validity of examination methods with numerous initiatives:

- Training and information sessions for lecturers (e.g. for Multiple Choice exams, Oral exams, criteria directed evaluation, ...) (<http://www.ugent.be/nl/werken/vorming/seminaries/toetsing-evoluerende-praktijk/overzicht.htm>). Additionally, a [guide for adequate evaluation procedures](#) has recently been distributed to all teaching staff of the university (September, 2012).
- Good practices during exams: practical guidelines for a correct evaluation procedure during examinations are provided by the central administration and are distributed to all the lecturers by the Quality Control Unit of the FVMG
Annex 2.4: University guidelines for oral exams (version 2.2 November, 2011).
- Study programme indicators: on a regular basis the Department of Educational Affairs analyses specific items of the study programmes. Concerning the quality and validity of the evaluations, university-wide analyses have been made on the study progression of the students and on the evaluation of Master's dissertations. These analyses are provided to the Study Programme Committee for interpretation, feedback and remediation.

Annex 2.5: Chart with global study progression indicators of UGent study programmes.

Annex 2.6: The Master Dissertation Committee report on the evaluation of the Master's dissertation.

- Study programme evaluations by recent graduates (every 2 years) and alumni (every 3 years). These study programme evaluations are organized by the Department of Educational Affairs (see chapter 5), where amongst other items, items on the quality and validity of the examination system are evaluated. These results are communicated to the faculties for discussion and feedback.

Annex 2.7: Extract from the study programme evaluation of the bachelor programme: results on examination system.

- Individual coaching and advice concerning examination methods is offered to lecturers by the central Office for Educational Quality Control (<http://www.ugent.be/nl/onderwijs/kwaliteitszorg/profopmaat.htm>). For example, multiple-choice questions can be submitted for screening and adaption to the university guidelines.
- Different tools are provided to lecturers using multiple-choice questions to monitor the quality of individual questions and the examination in general (item analysis through Curios, peer reviewing of questions). For example, in 2012 an extended booklet has been distributed to all the lecturers with detailed information on an adequate use of multiple-choice questions.

At the faculty level, the formative assessment of the students during clinical activities has been standardized and is based for all clinics on a specifically designed evaluation form. This form was developed based on the instructions of the central Office for Educational Quality Control during the lecturer and assistant trainings on evaluation and is used in the weekly evaluation sessions by the clinical staff in each clinic. The results of the evaluation are communicated to each individual student and advices are given whenever needed. Additionally, staff members are available for individual feedback sessions with the students. The results of the formative assessment and the individual feedback sessions are used to adapt and improve the clinical training and tutoring of the students.

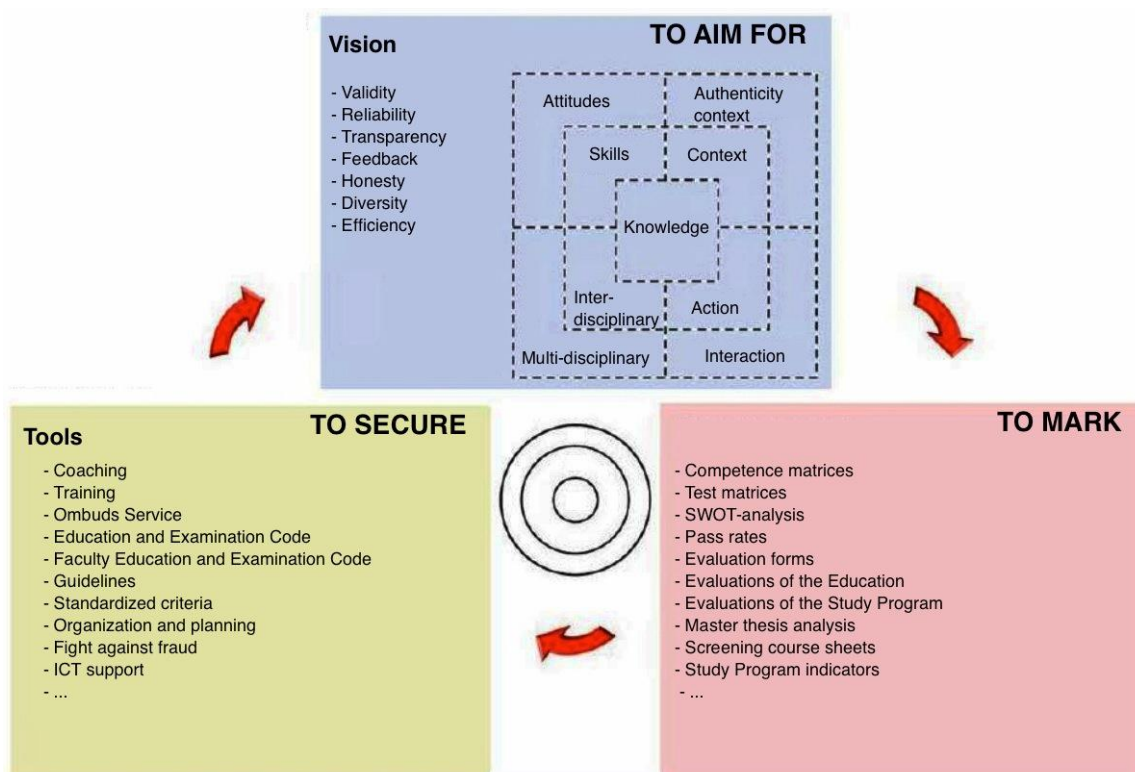
Annex 2.8: Evaluation form for the formative assessment of the clinical activities.

In an effort to further formalize and improve the quality control systems, UGent is gradually implementing a university-wide and uniform control system on all aspects of educational quality control, including validity and adequacy of the examination system. This university-wide uniform quality control system is based on the Plan-Do-Check-Act (PDCA) cycle and includes an even more systematic and formalized approach on quality control (see Chapter 5).

Specifically for the examination system the first draft on this item was discussed in the Council on Educational Affairs of UGent in 2010. The methodology was improved during the subsequent years and in December 2012 the adapted protocol was submitted to the Council on Educational Affairs. Basically the model is based on a

continuous and cyclic process, during which in a first stage the actual objectives for qualitative evaluation are (re)formulated. Secondly, adequate methods for evaluating are implemented and checked. In a last phase the process is consolidated by a documented quality control system including policies and procedures on the organization and planning of evaluations and on the support and training of lecturers (Figure 2.2).

Figure 2.2: University-wide and uniform control system on all aspects of educational quality control.



2.1.2.3 Examples of formative and summative assessment

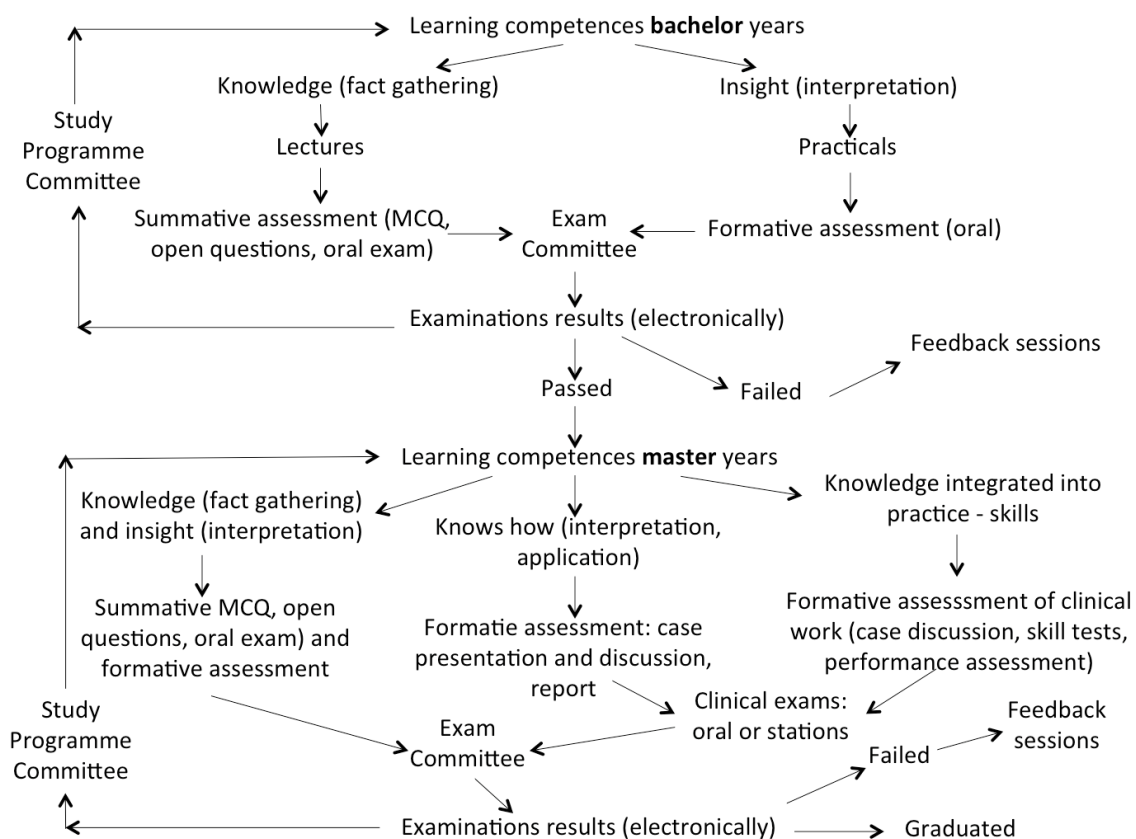
In the annexes, examples are presented of the different assessment methods used at the FVMG.

Annex 2.9: Multiple-choice question from the examination of medical imaging in the 3rd bachelor year.

Annex 2.10: Open questions from the examination of internal medicine of the large animals in the 2nd master year, 'Large Animal' trunk.

Annex 2.11: Mixed exam system from the exam of Anatomy in the 1st bachelor year.

2.1.3 Flowchart from learning objectives to examination results, including the way students are informed



2.1.4 Examination rules on time, exam retakes and structure

Unsuccessful students can take a second chance in the “second chance examination period” in August and September (4 weeks). If the student fails again, this course has to be included again in the student’s curriculum in the following year. In theory the student is allowed to retake these 2 examination chances per course each year for an indefinite period of time. There are however some limitations. A first limitation is described in the EEC (article 22) that reports a set of rules to ascertain a minimal study

progression per year. Secondly, the availability of remaining learning credit (see Chapter 9) can be another limiting factor for the number of exam retakes.

Failing for one or more courses does not completely block the study progress of the students. Due to a high flexibility in individual curriculum composition, students can include courses from higher years in their curriculum. The basic rule is that all previously failed courses have to be included in the curriculum when registering for courses of a higher year.

2.1.5 Problems in the student assessment system

Two systems are in place to cope with problems in the student assessment system.

The first system is based on the rules defined in the EEC as described in paragraph 2.1.2.2 (central Department of Educational Affairs, Quality Control Unit, Study Programme Committee, Examination Committee) and works pro-actively to ensure an optimal quality and efficiency of the student assessment system. In case of anomalies, the different councils or committees have the right and the duty to imply corrections or improvements.

The second system, which aims to protect the student during and after assessments, is described below.

Students have the right on feedback concerning their assessments and this right is formally described in the EEC (articles 2 and 61). Both for continuous and for end-of-term assessments, it is mandatory to offer feedback to the students. During this feedback the student can review his examination copy with the teacher and obtain advice on improving future assessments.

If the student does not agree with evaluation results or methods, several mechanisms are available for further mediation or appeal.

Ombudspersons are present within the FVMG. They are the confidants for the students of the first cycle, the second cycle and the doctoral (PhD) researchers. The Faculty Ombudspersons act as easily accessible contact persons between students and academic staff, and mediate when disputes occur concerning the assessment system. Moreover they participate in the examination deliberations where they represent the students' rights. They are members of the academic staff, are chosen by the students and are appointed by the FVMG for renewable periods of one academic year. Whenever this mediation fails, the Institutional Ombudsperson (belonging to the university's Central Department of Educational Affairs) can be contacted by the students for further mediation on matters that cannot be solved by the Faculty Ombudspersons.

Additionally, formal ways of appeal within the university exist as described in the EEC (article 95). For this purpose an Institutional Appeals Commission has been created (EEC, article 93, §3). Furthermore, according to the EEC, the possibilities for appeal have to be reported on every examination result document, so that the student is always duly informed about his rights.

In the event that even within UGent these problems cannot be solved, the student has the right to appeal to the Flemish Council for Disputes on study progress decisions ([“Raad voor betwistingen inzake studievoortgangsbepalingen”](#)).

2.1.6 Communication of student assessment to the students

The EEC stipulates in article 51, §4 that *“The dates and nature of the continuous assessment are announced beforehand.”* and that *“The results of the continuous assessment are to be announced as quickly as possible to students. If applicable, students will receive mid-term feedback, so that they can still adjust and improve their performance.”*

In order to comply with the EEC, the results of the continuous assessment are individually communicated to the students through email or through the electronic learning platform Minerva on a regular basis. During the clinical training this is done mainly on a weekly or monthly basis. More elaborate feedback is possible immediately after the communication of the results during a personal conversation with the responsible staff members. This system allows early adjustment and improvement of the students’ performance.

The communication of the results of the end-of-term assessments is strictly regulated by the EEC (article 70).

At a predefined moment after each examination period, the results are electronically and individually available for each student through the student administration system OASIS.

Date and hour of the communication of the results are announced to students before the start of the academic year

(<http://www.ugent.be/di/nl/onderwijs/facreglement/proclamatiedata>).

In OASIS the student can see and print a transcript of his records containing the individual marks obtained for each course unit and, if a deliberation took place (deliberations are obligatory only in the 1st bachelor and last master year) the decision by the *Examination Board per deliberation set* is also included in the transcript of records.

A proclamation (public communication) of the results of Master Study Programme is yearly organized in July. During this proclamation, the names of all new graduates are officially announced during a solemn ceremony in the university Aula in the presence of family and friends of the new graduates.

The UGent EEC does not include student involvement in the preparation or announcement of the results of the assessments. However, as described above, feedback possibilities and appeal procedures are formally included in the EEC. Additionally the students have 2 extra tools to judge the overall fairness of their assessment. When viewing their results on OASIS (electronic student information system), they can also view a distribution of the marks for that specific course, i.e. information on the overall results of that course and their position within that

distribution. During the first meeting of the Study Programme Committee after the exam period there is also a discussion on the global pass rates and the pass rates per course, which also allows the students to give their opinion and suggestions on the course of the previous exam period.

2.2 Postgraduate education: academic track PhD's

2.2.1 Admission procedure

The highest academic degree at UGent is the Doctoral Degree or PhD Degree or Doctorate. In order to achieve this degree an extended research programme is required. Overall, the total duration of the Doctoral dissertation varies between 3 and 7 years and depends among other things on whether or not the doctoral (PhD) researcher can spend most of his/her time on research or not. This is also dependent on how the doctoral research is funded. Doctoral (PhD) researchers receive a grant or a salary, depending on the funding organization.

In order to register to a Doctoral dissertation, doctoral (PhD) researchers have to present themselves in writing to the central administration of UGent, with the approval of at least one PhD supervisor. At least one of the PhD supervisors has to be an active tenured academic staff member or an associated professor with a research assignment at UGent. The procedure for application and admission of a doctoral research for national and foreign students is described in detail on the website of UGent and is respected inside the FVMG (<http://www.ugent.be/en/research/doctoralresearch>).

There are essentially 2 possibilities to start a Doctoral dissertation at UGent.

- Via an open position: this can be checked out using the [job opportunities website for research staff](#).
- o Via a UGent professor who is acting as PhD supervisor (or 'promotor'). The candidate can either look for his/her own funding or the professor can apply for a UGent salary. The majority of scientific staff starts work at UGent by explicit invitation of a promotor. Because all PhD applications must be supported by a UGent supervisor, it is crucial to [identify the appropriate professor](#).

All doctoral (PhD) students have to have [sufficient financial means](#) at their disposal during the whole of their stay. Doctoral studies are open to holders of a Master degree (or a degree of minimum 4 years of study considered equivalent). All international candidates need to complete a (mostly administrative) procedure during which the academic aspects (equivalence of their degree, research proposal, language skills) are evaluated. This procedure may take some time (discounting even the time spent gathering the documents and applying for a visa).

- o Admission requirements - in some cases candidates may be required to follow a predoctoral programme (see [Admission requirements in detail](#))
- o Application procedure - PhD supervisors are invited to register their international candidates who have acquired funding via the [online tool PhD](#)

[Wizard](#). In that case the [standard application procedure](#) (for candidates without funding) will be slightly different.

- Joint Doctoral (PhD) dissertation - if the candidate spends at least 6 months at another institution a joint doctoral degree can be obtained (see [Joint PhD procedure in detail](#))

All doctoral (PhD) researchers must enrol as students at the Central Student Administration Office at the start of their study, as well as re-enrol every following academic year (until graduation). The enrolment procedure and information about the tuition fee paid upon first and defence enrolment (yearly re-enrolment is free) are described in detail (see [Enrolment procedure in detail](#), [PhD tuition fees](#)).

All doctoral (PhD) researchers are encouraged to register at a Doctoral School, which are intended to complement the supervisor's work with in-depth courses, with training in transferable skills and through stimulating a dynamic research environment (see [Detailed information on the Doctoral Schools](#)). Additional information of the life as a doctoral (PhD) researcher is also available for the broad public ([Library services and publications](#); [doctoral \(PhD\) researcher and staff](#); [Education and Examination Code](#); [Postdoctoral research](#)).

2.2.2 Financial basis of the doctoral programme

Funding can be obtained via different ways:

- Personal grants provided by the Special Research Fund of UGent, Flemish Research Foundation (FWO), Agency for Innovation by Science and Technology (IWT), China Scholarship Council (CSC), ...
- Grants for a research project provided by various institutions including the Agency for Innovation by Science and Technology, Special Research Fund Ghent University, Research Foundation Flanders, Federal Public Service Health – Food Chain Safety and Environment, EU, private companies, ...)
- Own resources of the department
- Assistant mandates financed by the Federal Government and assigned by UGent and the FVMG to the various departments of the FVMG, stipulating that at least 50 % of the time must be spent on research leading to a Doctoral dissertation.

UGent provides a research quality bonus to supervisors of successfully defended Doctoral dissertations provided that the dissertation contains either at least 1 publication in the top 10% (based on impact factor) of a Web of Sciences discipline or at least 2 publications in journals present in the Web of Sciences. This bonus amounts to 5,000€, and an 1,000€ extra if the doctoral programme is successfully followed. This amount can still be raised with an extra 1,000€ for those doctoral (PhD) researchers assigned on externally funded projects, and an extra 2,000€ for those paid with own resources.

2.2.3 PhD supervision, requirements and assessment

On the basis of a proposal from the supervisor(s), the Faculty Council can assign a Doctoral Advisory Committee consisting of at least three members, including the PhD supervisor(s). The Doctoral Advisory Committee helps to support the doctoral (PhD) researcher during the research period.

The minimum requirement to obtain the Doctoral (PhD) degree of “Doctor in Veterinary Sciences” at the FVMG, is that this research resulted in at least 2 papers (in journals belonging to the top 50% of the ISI ranking of the subject category, or with an impact factor of ≥ 2) or 3 original articles that have been published or accepted for publication in international peer reviewed scientific journals with the candidate as first author. Journals with an impact factor of < 0.3 are not considered. Exceptions on this general rule are possible. In that case, the supervisor of the doctoral (PhD) researcher has to motivate clearly why the minimum requirement has not (yet) been fulfilled. This request is evaluated by the Faculty Research Committee. Overall, if there are clear indications that the PhD research of the candidate will eventually result in at least 2 or 3 papers published in international peer reviewed scientific journals, the Faculty Research Committee will grant an exception.

The results of the doctoral (PhD) research have to be written down in a Doctoral dissertation, which has to be publically defended. After a positive advice of the PhD supervisor(s) and the Doctoral Advisory Committee, doctoral (PhD) researchers are allowed to submit their Doctoral dissertation to the Faculty Council, which then assigns a Reading Committee and an Examination Board for the doctoral exam, consisting of at least 5 members. At least 3 members of the Examination Board are to be active tenured academic staff members of UGent or from a different university, at least 2 of its members must not previously have been members of the Doctoral Advisory Committee, and at least one member shall be unaffiliated with UGent. The majority of the members of the Examination Board must be affiliated with UGent. The Chair of the Examination Board is held by the Dean or his/her representative, who needs to be an autonomous academic staff member. Amongst its members, the Examination Board composes a Reading Committee consisting of at least 3 and no more than 5 members. At least one member of the Reading Committee is to be affiliated with UGent and at least one member is to be unaffiliated with UGent. Each member of the Reading committee is to compile a written review and a motivated evaluation of the Doctoral dissertation.

The doctoral examination itself consists of 2 parts.

- In the first part of the doctoral examination, scheduled at least 30, but no more than 90 calendar days after the appointment of the Examination Board, the Examination Board appraises the Doctoral dissertation of the candidate in question and the merit of his/her research. The deliberation of the Examination Board will result in one of the following decisions:

1. admission to the second part of the examination (public defense of the Doctoral dissertation)

2. admission to the second part, provided that corrections are made by the doctoral (PhD) researcher to his/her Doctoral dissertation within the time span imposed by the Examination Board. In joint consultation, the Chairman and the PhD supervisor(s) have to ensure that the requested corrections are implemented
3. no admission to the second part of the examination.

The final outcome of this deliberation is to be motivated and included in a report, together with the attendance register of the members of the Examination Board.

- In the second part of the doctoral examination, the doctoral (PhD) researcher has to put forward an oral and public defense of his/her Doctoral dissertation before the Examination Board. This public defense has to take place within maximum 30 days after the doctoral (PhD) researcher's admission to the second part of the examination, unless the doctoral (PhD) researcher requests a deferment. Immediately after the public defense session, the Examination Board decides on whether or not the academic degree of Doctor (PhD) is to be awarded. The decision of the Examination Board has to be motivated and included in a report, together with the attendance register of the members of the Examination Board.

The number of completed Doctoral dissertations and the number of veterinarians who obtained a Doctoral (PhD) degree at the FVMG from 2007 to 2011 is represented in Table 2.4.

Table 2.4: Number of Doctoral dissertations at the FVMG from 2007 to 2012.

Year	Completed PhD's	of which veterinarians
2007	18	13 (72%)
2008	31	18 (58%)
2009	32	21 (65%)
2010	42	27 (64%)
2011	33	17 (51%)
2012	49	32 (65%)

The evolution of the number of Doctoral (PhD) diplomas (Doctor in Veterinary Sciences) awarded each year from 1984 onwards, is presented in Figure 2.3 and the analysis of the Doctoral dissertations in 2011 and 2012 in Table 2.5.

Figure 2.3: Graph of the number of Doctoral dissertations from 1984 till 2012.

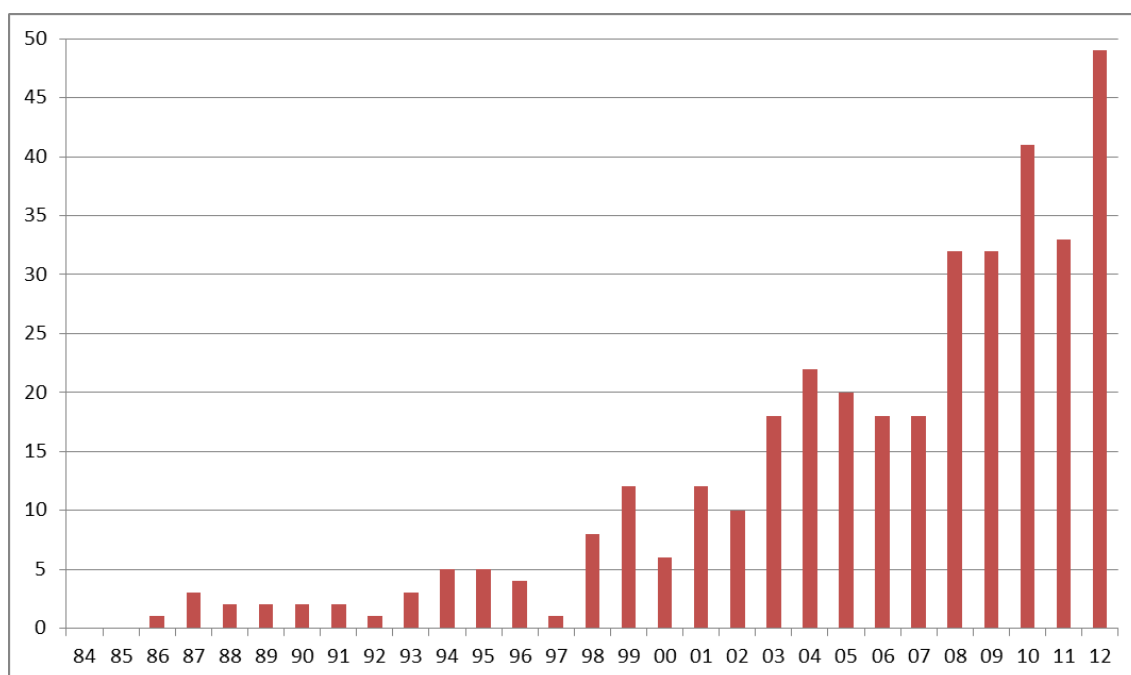


Table 2.5: Analysis of Doctoral dissertations in 2011 and 2012.

Year	Type of programme	#Students enrolled	# Students passed	Mean # paper per student	Mean #impact factor per student
2011	PhD	33	33	3.222	2.582
	Master	NA	NA	NA	NA
	Other	NA	NA	NA	NA
2012	PhD	50	49	2.419	2.390
	Master	NA	NA	NA	NA
	Other	NA	NA	NA	NA

NA = non applicable

2.2.4 Doctoral (PhD) training programme

The doctoral (PhD) training programme was introduced in the academic year 2007-2008 and has been revised in the academic year 2010-2011.

All doctoral (PhD) researchers at UGent must enroll as students of UGent at the start of their doctoral (PhD) programme and re-enroll every following academic year (until graduation). Doctoral (PhD) researchers are automatically enrolled for the doctoral training programme, which is organized through the Doctoral Schools. All doctoral (PhD) researchers become members of a Doctoral School at their first enrolment.

All doctoral (PhD) researchers of FVMG are member of the Doctoral School of Life Sciences and Medicine (since 2007 chaired by Prof. Jozef Vercruyse from the FVMG).

However, if deemed useful, a doctoral (PhD) researcher can request to be member of another Doctoral School.

Annex 2.12: The structure of the Doctoral schools.

Annex 2.13: The Explanatory Memorandum on the UGent Doctoral Training Programme.

2.3 Post graduate education: professional track

2.3.1 Types of programmes offered

The FVMG has at present 56 Diplomates of 19 different European Colleges being recognized as European specialists by the [European Board of Veterinary Specialisation \(EBVS\)](#). Two of these Diplomates are also recognized by an American College while 3 Diplomates have been accepted by both Colleges. Fifty-one Diplomates work full time at the FVMG, while only 5 work part time (Table 2.6).

Rotating Interns are assigned to one or more departments of the FVMG in which Diplomates of different Colleges are active. The Interns get a broad education in a specific animal species or subject, focusing on the essential training before starting a residency (Table 2.7). Residents are supervised by one or more Diplomates of one or several Colleges. Most residency programmes include external rotations or collaborations with institutions or clinics outside the FVMG.

The internship and residency programmes are organized in a number of formats. Interns follow a 1-year programme. Residents follow a 3 to 5 years programme (depending on the College). The programmes of rotating interns and residents are integrated mainly into the clinical organization of the FVMG. The final goal of this system is to assure a high standard of all disciplines whereby the resident is encouraged to sit the European exams at the end of his residency programme.

All interns/residents are financially supported by UGent since they are accepted by the central administration as students. They obtain a study grant and have access to all facilities for students. The FVMG gives financial support per College to the different departments involved, while the remaining interns/residents are paid by incomes of the clinics or other financial resources. By means of the Institute for Permanent Training (IPV) and through one responsible staff member allocated in each clinical department, the FVMG has a supervising role towards the internship/residency system.

**CHAPTER 2 - ASSESSMENT OF STUDENTS, POST GRADUATE EDUCATION
& STUDENT WELFARE**

Table 2.6: Postgraduate professional specialization (residents-in-training).

Diploma title	Number of Diplomates	Number of residents		Success rate	
		n	n-1	n	n-1
ECVAA	2	3	3	0 out of 1	NC
ECVS	7 (one part time)	5	5	Large: 1 out of 1; Small: NC	Large: 1 out of 2; Small: 0 out of 1
ECVDI	4 ^{*a}	3	5	1 out of 1	1 out of 1
ECVIM-CA	4 ^{**}	2	3	NC	2 out of 2
ECVN	2	1	2	2 out of 3	1 out of 3
ECAR	4	3	1	NC	NC
ECVP	2 ^{*b}	4	3	0 out of 2	NC
ECVCN	2	2	0	NC	1 out of 1
ECEIM	1	1	1	1 out of 1	0 out of 1
ECPHM	7 (one part time)	5 (+1 alternative)	1	NC	NC
ECBHM	4 ^{*c} (one part time)	0	0	NC	NC
ECVPH	3	0	0	NC	NC
EVDC	1 (part time)	0	0	No formal residency	No formal residency
ECLAM	1	0	0	No formal residency	No formal residency
ECVPT	1	0	0	No formal residency	No formal residency
EVPC	5 (one part time)	0	0	NC	NC
ECVD	1 ^{***}	0	0	No formal residency	No formal residency
ECZM	2 (herpetology & small mammal)	0	0	No formal residency	No formal residency
ECPVS	1 (part time)	0	0	No formal residency	No formal residency

* one also accepted as Diplomate in another specialty (^{*a} ECVS; ^{*b} ECPHM; ^{*c} ECAR)

** one also Diplomate ACVIM

*** also Diplomate ACVD

n: 2010-2011; n-1: 2009-2010

NC: no candidate took the Diplomate exam

Table 2.7: Postgraduate professional specialization (interns).

Clinical discipline	Number of interns n	Number of interns n-1
Small Animal Rotating Internship	6	6
Small Animal Orthopaedics	1	1
Medical Imaging	3	0
Epidemiology	1	0
Equine Internship (surgery & medical imaging)	3	3
Equine Internship (medicine)	2	2
Equine Internship (reproduction & obstetrics)	1	0
Parasitology	1	0
Bovine Health Management	1	1
Porcine Health Management	0	1

n: 2010-2011

n-1: 2009-2010

2.3.2 Admission procedures for national and foreign students

Positions for postgraduate professional specialization are advertised through the website of the FVMG. Suitable candidates are selected from all applicants regardless of nationality by the senior staff of the clinics. Completion of an internship is a requirement from almost all European colleges for entering a specialization programme.

2.3.3 Student assessment procedures and results

Interns are guided by the clinical staff including the Diplomates. A system of continuous personal evaluation is used in most departments, whereby in very rare cases remediation is necessary. All interns receive an official certificate signed by the Rector of the UGent at the end of the internship. There is no final test/exam for the interns.

Resident progress and success are primarily monitored by the supervising Diplome. Following the guidelines of the European Board of Veterinary Specialisation (EBVS), a yearly report of the progress of the resident has to be submitted. All residents receive an official certificate signed by the Rector of UGent at the end of the residency. Finally, all college-specific rules/demands/requirements to enroll and sit for the yearly central examination have to be fulfilled (case books, publications, diaries, etc). The responsibility of enrollment is shared by the resident and the supervisor. The exam results of the residents are represented in Table 2.6.

Furthermore, the FVMG has installed a committee (including representatives of the residents) where matters concerning interns and residents are discussed. This committee meets once or twice a year, as needed, and reports to the Faculty Council.

2.4 Student welfare

2.4.1 Protection of students from zoonoses and physical hazards

Specific knowledge and training on prevention against zoonoses, biohazards and physical hazards is mandatory in a veterinary environment.

Safety and biosafety guidelines are documented in manuals that are provided to all students.

Manuals for safe conduct in laboratories have been generated at university level ([Laboratory and Workplace Regulation UGent](#)) as well as at department level. These manuals are distributed to and signed by the students during the first practical exercises in the Bachelor's and the Master's programmes.

A Health and Safety Committee is active at the FVMG. It aims to identify risks and maintain the safety of staff, students, general community and environment, and works in close collaboration with the Health and Safety Department of UGent (<http://www.ugent.be/en/ghentuniv/healthandsafety>). In each department, allocated personnel are responsible for the application of the health and safety regulations, under supervision of the head of the lab/department. Additionally, trained first-aid personnel ("First Intervention Unit") is available in every department. Finally, a defibrillation unit is present at the FVMG and is centrally located in the Department of Anesthesiology and Surgery of the Large Animals.

The Health and Safety Committee also comprises a Radioprotection Unit, which is assigned to control and implement the radioprotection rules and to represent the university Radiation Protection Service at the faculty level. The prime objects of the Radiation Protection Service and its peripheral units are the supervision of the departments where radioactive agents and ionizing radiation are used, controlling radioactive waste policy, monitoring individual radiation exposure (dosimetry), and providing information on radiation protection.

A Faculty Biosafety Committee is also active at the FVMG. It oversees all work with microbiological agents and, like the Health and Safety Committee, aims to maintain the safety of staff, students, general community and environment in a pro-active way. It works in close collaboration with the Environmental Department of UGent (<http://www.ugent.be/nl/univgent/welzijnmilieu>). The Faculty Biosafety Committee has compiled a manual with biosafety guidelines specific for the FVMG ([Biosafety Manual FVMG](#)).

During their 3rd bachelor year, students receive training on biosafety, and a copy of the faculty biosafety guidelines is distributed during the course of Hygiene, where the general principles of biosecurity and containment of biohazards are also discussed. In the biosafety guidelines book, detailed information of the practical implications of the

general principles in the FVMG setting is provided given. These guidelines are updated on a regular basis.

Students enter the clinical departments in their 4th year. They receive plenary instructions on safety guidelines in the clinics during the first session of clinical demonstrations and receive additional instructions at every clinical department.

During the 4th and 5th year, the students only work under close supervision of staff members, ensuring that all quality and safety standards are met.

In the final year, students will often work without immediate supervision, and therefore additional measures to ensure the safety of the students are put into place:

- at the end of the 5th year a general introductory lesson is organized and the notes of this lesson are distributed amongst the students. This lesson covers all sorts of topics, including hygiene and biosafety rules.
- during the final year, staff members ensure that a continuous attention is maintained to respect the biosafety guidelines (e.g. wearing of protective clothing, hand hygiene, compliance with restricted access to isolation wards, ...) during the clinical activities.

Finally, a medical service is provided for the students. This medical service is available for first line consultation (<http://www.ugent.be/en/teaching/studysupport/medical>), while for emergencies the University Hospital can be contacted. All students also have to pass a medical examination before starting their extramural activities: if needed, adequate vaccinations will be provided to the students based on the geographical location and/or specific risks at the extramural workplace (e.g. zoo animals, primates, ...).

2.4.2 Guidance for Students

UGent provides ample opportunities for guidance and counselling to the students.

The Advisory Centre for Students of UGent offers information, professional advice and counselling concerning the different aspects of a study career, before, during and after the period of study. This service is at the disposal of all students, prospective students or anyone else interested in studying at UGent (<http://www.ugent.be/en/teaching/studysupport/counselling/studycareerservice.htm>)

Firstly, this support includes advice for prospective students in making the right study choice (<http://www.ugent.be/en/teaching/studysupport/makingchoices>).

Secondly, UGent and the FVMG provides continuous and broad support to the students throughout their studies.

- At the level of the university, the University Advisory Centre for Students provides the following support:

- *Information desk*

The information desk is the starting point in the Advisory Centre. The staff members try to find an immediate answer to questions and problems by giving

information; if necessary an appointment is made with an adviser or counsellor. Information for international students as well as information brochures concerning all branches of study at UGent can be obtained from the information desk, which can also be reached by phone or e-mail.

○ *Information library*

The Advisory Centre for Students has 2 libraries:

- for prospective students looking for information concerning (academic) study programmes: 1st year (Bachelor's degree) course books, information from other Flemish universities and other institutions of Higher Education. This information library is accessible every working day.
- for students looking for information about postgraduate studies in Belgium: information on the Belgian labor market; information for graduates who want to enter the labour market; labour market surveys and trends, application and selection procedures, job vacancies, etc.

○ *Study career counselling*

For each step or problem in a student's study career, a team of advisers is available to discuss study matters and study choices, e.g. information and counselling on the curricula, required foreknowledge and aptitudes, examination regulations, switch-over possibilities, bridging courses, etc.

○ *Study problems and study skills*

A psychologist is available to guide students in finding the appropriate study attitude and functional study skills. Students are helped to remedy problematic matters such as lack of concentration, study planning and time management, problems with writing a paper or dissertation, declining motivation, procrastination, ... Each semester workshops on study skills and related topics are organized in small groups (in Dutch).

○ *Personal / psychological problems*

A psychologist is available for confidential counselling for students who cope with study problems because of personal distress ((pre)exam nervousness, strain, fear of failure, relational problems, self-assertion, home sickness, depression, ...). Yearly workshops in small groups are organized about how to deal with fear of failure (in Dutch).

- Additionally other departments of the university provide support throughout the study of the students. Some examples are listed below:

○ *Counselling for Handicapped Students*

This section offers material, technical, and social aid to students with special needs. This service acts as an intermediary between disabled students, staff and fellow students concerning study and examination facilities, transport, accommodation, software support, etc.

○ *Medical service*

Medical service is provided for all students for first line and emergencies cases (<http://www.ugent.be/en/teaching/studysupport/medical>).

○ *Child care*

UGent organizes its own high-quality childcare for children from students and staff (<http://www.ugent.be/en/facilities/child/overview.htm>).

- At the faculty level, guidance and counselling for students is available at the Monitoring service. This service is the first point of contact for the students of the

CHAPTER 2 - ASSESSMENT OF STUDENTS, POST GRADUATE EDUCATION & STUDENT WELFARE

FVMG and supplies guidance on study related problems as well as guidance and counseling concerning social or private problems. Whenever needed, the Monitoring service refers the students to the appropriate services of UGent. For problems related to internal conflicts, the students can contact the Faculty Ombudpersons (see chapter 4.1).

Thirdly, UGent and the FVMG provide guidance to students for job selection and postgraduate studies, and future career development.

- At university level, extensive information about (advanced) Master's programmes and other further study possibilities at UGent is supplied by the Advisory Centre for Students. In the information library information on study programmes at other Belgian universities and institutions of Higher Education is also available. Individual counselling (by appointment) may help to consider a motivated choice that suits into specific professional ambitions.

The Advisory Centre for Students also provides information and helps to get started on the job market (<http://www.ugent.be/en/teaching/studysupport/careers>). For example, every year the Ghent University Association organizes a Graduation Fair in Ghent at the end of March to help final-year students find a first job or an opportunity for further study:

(<http://www.ugent.be/en/teaching/studysupport/counselling/graduationfair>).

- At the faculty level, every year an information session is organized specifically on post-graduate study opportunities for veterinary students (5th and 6th year). Information is provided on academic study opportunities (grant acquisition for doctoral studies in Belgium and abroad (e.g. Fullbright scholarships)) and professional graduate studies (residency programmes). Also annually, an information session is organized at the FVMG concerning professional career possibilities specifically focused on the job opportunities related to the students' track choice.



3 CHAPTER 3 - ASSESSMENT OF TEACHING STAFF

3.1 Assessment of teaching staff by students

Students are involved in the evaluation of teaching both at the level of the FVMG and the Council on Educational Affairs of UGent. Several formal assessment procedures at fixed intervals are used for the evaluation.

At the FVMG, the students fill out an anonymous electronic survey on each member of the academic staff and each course at least once every 3 years. The students perform the evaluations of the previous year during the first semester of the following year. Participation is not mandatory but strongly encouraged. A minimum response rate of 30% has been accepted by UGent to assure a statistically relevant response.

The evaluations are predominantly a measure for the quality of teaching: seven dimensions (the learning effect, the teaching style, the approachability, the organization of the course, the teaching material, the practicals and the evaluations) are analysed using 26 questions (annex 1.1: example of questionnaire, annex 3.1: global teaching evaluation results of the bachelor study programme in 2010).

The surveys are university-wide and the questions are reviewed and improved on a regular basis by the Council on Educational Affairs of the university.

The results of the evaluations are discussed within the Education Quality Control Unit of the FVMG with the representatives of the students. Afterwards a report of the evaluation is transferred to the lecturer, the Head of the Department and the Chairperson of the Study Programme Committee. The final evaluation report of the teaching process is included in the lecturer's personal education file and is consulted for promotion by the specific committees.

Whenever the Education Quality Control Unit judges that improvements are possible or needed, a formal meeting with the lecturer is organized to discuss and monitor possible ways of remediation. Consequently, the course is re-evaluated the following year to measure the effects of the changes. In cases of continuing problems with the quality of teaching, a change of lecturer can be suggested to the involved department.

The students are involved in preparing the surveys for teacher evaluation at 2 levels.

- At the level of the central administration, the students have 7 representatives in the Council on Educational Affairs where the content of the surveys and the methodology are yearly discussed and adapted if necessary.
- At the level of the FMVG, the Education Quality Control Unit including 2 students meets on a regular basis (once per month). Within this Education Quality Control Unit, the schedule for evaluation and the faculty methodology (timing and actions to increase the response rate) are decided.

Additionally, the students participate actively in the interpretation of the results of the surveys. This is done mainly at the faculty level where the students who are members Education Quality Control Unit, are actively involved in the discussion on the individual results and the redaction of the report that is sent to the lecturers, the Head of Department and the Chairperson of the Study Programme Committee.

Feedback on the global results of the yearly student evaluation is discussed with the students in the Study Programme Committee so that they can give a feedback to their fellow students. At this moment, the method of communication of the results is a faculty matter. However, in the future, the university will develop formal systems for communication to the students (decided by the Council on Educational Affairs in 2012).

Additionally, the Education Quality Control Unit is also responsible for the organization of the study time measurement, which is performed at least after each study programme update in order to evaluate the study load of each course. This system has started in 2002 and the most recent study time measurement was done 2011-2012. This procedure allows to check whether the real study time complies with the allocated study time, in order to avoid an excessive study load per course and hence in the overall study programme. A presentation of this study time measurement system can be found at : http://icto.ugent.be/files/intro_stm_en.pps

3.2 Assessment of teaching staff by the FVMG and by UGent

The promotion steps in a standard academic career at UGent after graduation are:

- Assistant (“Assistent”) in the academic assistant staff
- Associate Professor (“Doctor-Assistent”) in the academic assistant staff
- Professor in the rank of Lecturer (“Docent”) in the autonomous academic staff
- Professor in the rank of Senior lecturer in the (“Hoofddocent”) in the autonomous academic staff
- Full-Professor (“Hoogleraar”) in the autonomous academic staff
- Senior Full Professor (“Gewoon Hoogleraar”) in the autonomous academic staff

A cyclic system of evaluation of the permanent staff has been implemented for many years at UGent. Each staff member has to submit every year his/her goals concerning research, teaching and service to the community. These goals must be approved by the Department Council and by the Faculty Council and are communicated to the central administration of UGent. In these objectives, every staff member has to indicate amongst others the percentage of time that will be devoted to teaching, research and service to the community. Every staff member has to be active in the 3 fields for a minimum of 5% of his/her time.

Every 2 to 4 years, the staff members are evaluated based on these previous objectives (“functieomschrijving”) by the Autonomous Academic Staff Evaluation Committee (ZAP-evaluation Committee). This committee consists of the Dean, the Chair of the Faculty Research committee, the Director of Studies and the member responsible of the Personal and Logistics Unit of the Dean’s Office. During these meetings, every autonomous academic staff member is evaluated based on his/her teaching (student evaluations, participation in innovation, ...), research (publications in national and international scientific journals, Doctoral dissertations, grants, ...) and service to the community both internal at faculty or university level (membership of faculty committees, ...) and external (membership of European Colleges, ...).

The system has recently been adapted by the University specifically for the promotion from Professorship to Full-professorship. The main changes of the new evaluation system, which started in October 2012, include a more extensive, university-wide evaluation based on precise objectives, which cover a 5-year period and are formulated by the staff member. Additionally, the Autonomous Academic Staff Evaluation Committee has been enlarged by involving 2 extra-members of the academic staff and a larger participation of the Study Programme Committee in the preparation of the files. In this new evaluation system for promotion, more stringent rules for the quality of teaching are implemented. These guidelines are summarized in the Reference Guidelines for promotion of permanent staff (“Referentiekader ZAP bevordering”).

A summary of the teaching part of the guidelines used for promotion of permanent staff is given below.

For promotion from Professorship to Full Professorship, every lecturer of the permanent staff has to fill out his/her objectives for the 5 coming years in the fields of teaching, research and service to the community. Teaching and research are the 2 most essential parts in this promotion system.

For teaching, both the quantity (teaching load) and the quality of teaching are evaluated.

The **quantity** of teaching involves:

- The number of courses for which the permanent staff member is Lecturer-in-charge.
- The number of lectures that the staff member must give.
- The amount of practicals, clinics, etc. organized and supervised by the staff member.

For each of these categories, the number of credits, the level of the course (bachelor and master versus permanent training), the type of course (general or elective), the number of the students, the teaching material and the evaluation method are taken into account.

The **quality** of teaching is evaluated based on a marking system with a top score of 30 points. This system is composed of (a) 10 points for the evaluation by the students, (b) 10 points on the content of the course, and (c) 10 points on the evaluation forms.

- The *evaluation by the students* is converted in points using the following table (Table 3.1):

0	No teaching activities
1	Mean score < 2/5
2	Mean score $\geq 2.0/5$
3	Mean score $\geq 2.5/5$
4	Mean score $\geq 2.75/5$
5	Mean score $\geq 3/5$
6	Mean score $\geq 3.2/5$ and most dimensions are higher than the reference values (i.e.

	the mean score of all courses of the bachelor or master programme of the FVMG) OR Mean score of $\geq 3.4/5$ and most dimensions are lower than the reference values
7	Mean score $\geq 3.4/5$ and most dimensions are higher than the reference values OR Mean score of $\geq 3.7/5$ and most dimensions are lower than the reference values
8	Mean score $\geq 3.7/5$ and most dimensions are higher than the reference values OR Mean score of $\geq 4/5$ and most dimensions are lower than the reference values
9	Mean score $\geq 4/5$ and most dimensions are higher than the reference values OR Mean score of $\geq 4.3/5$ and most dimensions are lower than the reference values
10	Mean score $\geq 4.3/5$ and all dimensions are higher than the reference values

- The *content of the course* includes 3 parts: topicality of the course unit (score 0-3), research based teaching (score 0-3), and coherence of the course unit in the general curriculum (score 0-3). These criteria are previously discussed in the meetings of the Study Programme Committee.

The following table (Table 3.2) illustrates the translation of the score on topicality, research based teaching and coherence of the course unit in a score on 10 points for the content of the course:

1	1-1-1
2	2-1-1
3	3-1-1
4	2-2-1
5	3-2-1
6	3-3-1
7	2-2-2
8	3-2-2
9	3-3-2
10	3-3-3

- The *evaluation forms* cover the validity of the exams (= adequate balance between the competences that are evaluated and the practical feasibility) on 3 points, the reliability (= balance between a reliable and a challenging evaluation of the students) on 3 points, and the transparency of the examination forms (= conformity with the information given to the students on the exam such as timing, sample questions, ...) on 3 points. The scoring on these criteria will be performed by the Education Quality Control Unit and the Study Programme Committee.

The following table (Table 3.3) illustrates the translation of the score on validity, reliability and transparency of exam forms in a score on 10 points for the evaluation forms:

1	1-1-1
2	2-1-1
3	3-1-1
4	2-2-1
5	3-2-1
6	3-3-1
7	2-2-2

8	3-2-2
9	3-3-2
10	3-3-3

A minimal score of 20 (on the top score of 30 points) is required to obtain the promotion.

Finally, next to the quantity (teaching load) and the quality of teaching, **additional criteria** may be included:

- Participation to innovation in education (start of a new course unit, use of new techniques for teaching, innovative projects on teaching, ...)
- Active role in promoting internationalization and development cooperation (course unit/study programme in English, Erasmus programme, Chair of the Faculty Committee for Internationalization, ...)
- Provision of services in the Education (Director of Studies, Chair of the Study Programme Committee, Chair of an Examination Committee, Chair of the curriculum committee, ...).

Example of grading:

A Senior Lecturer ...

1. receives a score of 3.2/5 at the student evaluation with most dimensions above the reference. This corresponds to **6/10** in Table 3.1.

6	Mean score $\geq 3.2/5$ and most dimensions are higher than the reference values
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2. Scores a 2/3 for the topicality of the course, a 3/3 for research based teaching and a 2/3 for coherence of the course unit in the general curriculum. Two times 2/3 and one time 3/3 corresponds to **8/10** in Table 3.2.

8	3-2-2
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3. scores 3/3 for validity of the exams, 2/3 for reliability and 3/3 for the transparency of the examination forms. Two times 3/ and one time 2/3 corresponds to **9/10** in Table 3.3.

9	3-3-2
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The total for this lecturer corresponds to $6/10 + 8/10 + 9/10 = \mathbf{23/30}$, which is above the minimum of **20/30**.

3.3 Management and further development of the teaching staff assessment system

Management and further development of the teaching staff assessment system is mainly organized by the central administration of UGent, more specifically by the Office for Educational Quality Control, which is part of the Department of Educational Affairs.

This Office takes care of the guidelines for teaching staff assessment, performs the follow-up of the results, and supports and suggests adaptations or improvements of the assessments.

The Council of Educational Affairs discusses the suggestions for improvement made by the Office of Educational Quality Control and gives advice for changes to the Board of Governors, which takes the final decision.

All decisions made by the Board of Governors on teaching assessment will eventually be included in the EEC and have to be implemented by the faculties where the Education Quality Control Unit and the Study Programme Committee will manage their implementation.

3.4 Systems to improve individual teaching qualifications

To maintain and improve the teaching skills of the academic staff at a high level, UGent organizes each year a series of training sessions for the teaching staff. These sessions are highly attended and have become an important part of the educational portfolio of the academic members.

Trainings are organized both for lecturers (“docententraining”) and assistants (“assistententraining”).

For lecturers, several modules are available:

- Basic teaching training module
- Presentation techniques level I and II
- Multiple-choice exams
- English for lecturers
- Voice clinic
- Smart board training
- Turning point training

For the academic assistant staff, 2 modules are available: basic assistant training and feedback training.

Additionally, several educational seminars are organized yearly on specific topics, for example teaching for large audiences, use of digital media in teaching,

3.5 Evaluation by teaching success: awards/rewards for teaching excellence

Teaching excellence has become more important at the UGent over the last decade.

Firstly, several awards have been developed at the level of UGent to reward teaching excellence. The best-known award is the “Wijste prof” (Wisest Professor) award, which is annually awarded since 2007 by the students after a university-wide voting. In the past, 2 professors from the FVMG have obtained this prize: prof. P. Simoens (Anatomy) in 2007 and prof. A. de Kruif (Reproduction and herd health) in 2010.

Secondly, since 2011 UGent awards 3 prizes for excellence in teaching, research and public and scientific engagement, respectively. The *Minerva Award* for education is granted based on outstanding quality of lectures, exceptional contribution to educational innovation, organization or curriculum development, and excellence in

student coaching and advising. Students and university personnel nominate candidates, and the central administration and the Rector take the final decision. At this moment, no members of the FVMG have yet been awarded the Minerva Award for teaching, while prof. Ann Van Soom (Reproduction and herd health) was granted the *Prometheus Award* for excellence in research in 2012. The *Hermes price* is dedicated to excellent work in the domain of public engagement ([UGent Awards for teaching, research and engagement](#)).

3.6 Evaluation of scientific merit

As described at point 3.2, all members of the scientific staff participate in research as well as in teaching and service to the community, albeit in different percentages. Therefore, every staff member is also evaluated based on its merits, including the scientific merits, on a 2 to 4-year cycle by the Autonomous Academic Staff Evaluation Committee of the FVMG.

As for teaching, the system for evaluation of research has also been recently adapted for promotion from Professorship to Full-professorship and is based on 5-year objectives.

A summary of the research part of the guidelines used for promotion of permanent staff is given below.

Three types of research activities are used to evaluate the research output (quantity and quality) of permanent staff members: publications, Doctoral dissertations, and projects and grants.

- For the publication output, the type and number of publications of which the staff member is author/co-author (first, second and last authorship are graded) are considered taking into account the 'research culture' within the discipline.
- For Doctoral dissertations, the actual number of doctoral (PhD) researchers and the number of successfully defended Doctoral dissertations supervised as promotor or co-promotor are considered.
- For projects, the number of project applications (internal (BOF, IOF) or external projects (FWO, EU, ...)) and the success rate are considered.

The goals for research are quantitative and stringent.

Additional criteria for research are:

- The international reputation of the staff member (invited lectures, key-note lectures, scientific awards, ...).
- The cooperation with other universities (national or international) and research centres (research consortium, multi- or interdisciplinary research projects, externships, joint Doctoral dissertations, ...).
- Leadership (supervision of postdoctoral students, leader of administrative and technical staff in research projects, new research lines, ...).
- Valorization (development of spin-off, industrial contracts, ...).

The competences and performance indicators are partially based on the researcher

profile such as described in the document published by the European Committee (2011): "[Towards a European Framework for Research Careers](#)".

3.7 Tools that can be used by teachers to improve their teaching

The improvement of the quality of teaching is supported by yearly grants from UGent for innovation in teaching. Annually, between 40,000 and 50,000 Euro is granted by the university to the FVMG. This amount of money has been used for several projects over the years such as adaptation of the surgical theaters (video camera system), dummies for obstetric exercises ("Betsy") or blood sampling ("Koken rat"), a voting system (based on Turning point) for use during lectures, ...

Next to the initiatives at the level of the FMVG, initiatives by the university also aim at improving the quality of teaching. These include:

- Symposia on teaching quality and innovation (e.g. Millennium class 2012)
- Facilities for streaming video (streaming video portal)
- Educational research vouchers (financial support for research on teaching)
- Extension of the teleclassing facilities at the university by progressively equipping all faculties with these facilities

...



4 CHAPTER 4 – ASSESSMENT OF LEARNING OPPORTUNITIES

4.1 Provision of learning opportunities

4.1.1 Type, provision and updating of appropriate learning opportunities for the students

Lecturers can choose their own didactic methods and examination methods, as long as their choice complies with the UGent directives and is approved by the Study Programme Committee of the faculty. For each course, the didactic methods and examination methods have to be yearly specified and approved before they are published in the [programme catalog](#) of the UGent.

All lecturers and students must use the electronic learning platform of UGent, called Minerva (<http://minerva.ugent.be/index.php>). This digital learning platform supports conventional class education and offers a whole range of possibilities for e-learning. The electronic learning environment platform is used as course message board and file and media-server for uploading course materials as well as a forum for online discussions between students and the lecturer. All relevant information is placed on this system whereby mailing to specific groups of students can be done if needed.

In most courses that include theoretical aspects, a written syllabus in Dutch is available for the students' course preparation. Course notes (PowerPoint handouts, exercises) uploaded in Minerva are used in conjunction with lectures, seminars and practical exercises. Supplementary audio-visual material (e.g. videos, audio files, virtual digital slides) and background information related to the course (e.g. relevant poster presentations or publications) is provided in Minerva for an increasing number of courses and can be updated continuously. The number of visits and downloads for each document on Minerva can be monitored on-line by the teaching staff, to evaluate the interest of the students for the provided material. An analysis of the use of Minerva over UGent has been performed.

The FVMG is actively involved in the development of e-learning, and for that purpose a faculty wide project for on-line presentation of interesting digital material has been started. This project aims at gathering the information that is available at the different departments in order to offer the students a single portal of entry. This project has started in 2011 and is called the "Veterinary Digital Platform" (<http://www.didp.ugent.be/search.php?type=single>). In addition to the digital learning material from the departments, this platform also features the recorded lectures of the Institute of Permanent Training and will host links to external sources of digitally available learning material. A substantial amount of this learning material has been produced with funding of the university through grants for education innovation.

4.1.2 Learning opportunities in the clinics

From the 1st master onwards, students are scheduled into the rotation system of the different clinics. The 1st and 2nd master year students have a limited amount of clinical training (8.00 to 10.00 am), while the final year students are incorporated into the clinic activities both during normal working hours and also during night and weekend shifts. Practical training involves not only “hands-on training” but also self-learning whereby any individual student provides for his co-students relevant information about patients, mostly hospitalized into the clinics. Most databanks of patients are partly open for students (access to relevant data about the patient, no access to financial information). These databases can also be used for the Master’s dissertation (clinical cases, follow ups etc.) whereby the students are encouraged to use all facilities available and start already even as a student the lifelong learning procedure.

4.1.3 Training of lecturers

UGent provides training courses for lecturers on teaching methods and examination methods. Next to a basic training course (1 week), training courses on specific aspects of teaching (e.g. presentation techniques, multiple choice exams) are provided, and lecturers are encouraged to participate to these courses. An active participation in these courses is required and is evaluated during the different promotion procedures during the career of the lecturers.

For lecturers, several modules are available:

- Basic training course
- Presentation techniques level I and II
- Multiple choice exams
- English for lecturers
- Voice clinic
- Smartboard training
- Turning Point training

For the academic assistant staff, two modules are available: basic assistant training and feedback training.

Additionally several educational seminars are organized yearly on specific topics, for example teaching for large audiences, use of digital media in teaching,

4.1.4 Study support

Students who are at odds with their studies because of personal distress and / or ineffective study methods can request advice and support from the central Advisory Centre for Students. Two psychologists as well as medical doctors, well acquainted with study problems or psychological problems that students may have, are available for counseling.

Inside the FVMG, students can turn to the so-called “Monitoring Service” (1.5 FTE), which hands out individual personal service, mostly to students of the bachelor years. Student Counsellors and Learning Track Counsellors are available for individual advice and guidance concerning specific study choices or matters particularly related to the chosen study, or to talk about possible re-orientation.

If problems are encountered by the students or when specific demands appear, the students have access to the ombudspersons (one for the Bachelor, Master and doctoral (PhD) researchers respectively). The ombudspersons negotiate and/or propose solutions for specific problems to the Education Quality Control Unit of the FVMG or to the individual lecturers. A yearly report of the ombudspersons is sent to the Faculty Council.

Specific statutes can be granted to the students when needed (physical handicap, dyslexia, top sport, social problems...) whereby mediation for study facilities or remediation can be performed. All requests for such specific statutes are handled by a central unit in close collaboration with the Education Quality Control Unit of the FVMG.

4.1.5 Provision of IT facilities

4.1.5.1 Computer classes

The Information and Communication Technology Department (DICT) provides 70 computers in the faculty library and two computer classes. The operating system is Windows 7 and is updated when needed. Additionally, all general and some field-specific software is installed in the lecture rooms, computer classes and library by DICT. Twenty computers in the computer class "Hoogbouw" are reserved for formal tuition, the other ones are available for free practice. Opening hours are from 9 am - 7 pm (during the teaching semesters) or 9 am- 4.30 pm (outside the teaching semester). The Information and Communication Technology Department - PC Management is responsible for the system management.

4.1.5.2 Disk space

Each user (staff and students) has an amount of disk space at his/her disposal on the central servers of Information and Communication Technology Department, i.e. up to 5 GB for email, 5 GB personal disk space and 1 GB for webhosting. Every department can get extra-shared disk space for research purposes.

4.1.5.3 Hardware

Through a yearly notebook campaign, students and staff can purchase a notebook at strongly reduced prices.

4.1.5.4 Software

Through the Athena platform, UGent students and staff members can access a wide range of standard (e.g. MS Office, EndNote, Reference Manager) and specific programmes (e.g. SAS, SPSS) for educational and other purposes from any computer linked to the university.

4.1.5.5 Webmail

UGent staff members and students who have an UGent account can access their mailbox from every computer connected to the internet via nearly all web browsers, after logging in with their username and the UGentNet central password.

Communication with the students is exclusively through their official UGent mailing account in order to avoid unwanted or unnecessary mailing.

4.1.5.6 Minerva

UGent staff members and students who have an UGent account can access the digital learning environment Minerva.

4.1.6 Provision of library facilities

4.1.6.1 Faculty library

The library of the FVMG is a functional library in the UGent Library Network. It is complemented by 17 small departmental libraries that mainly serve as reference libraries for the department staff. The collection of both the FVMG and the departmental libraries includes 12,000 books (of which 70 % are in the faculty library) and 260 e-books. Currently it still receives about 89 journals and serials a year in hard copy, although the UGent library Network focuses on E-only journals whereby access to 27,000 journals online is provided.

The library decided to focus on Web of Science, Pubmed and Google scholar as the major databases to be used in veterinary medicine research. The library network developed the SFX tool to establish the link between these databases and the purchased licenses to journals and (e-)books.

The library opening hours are 9 am - 7 pm during the teaching semesters and 9 am-4.30 pm outside the teaching semesters. There is remote access to all library services on a 24 hours /7 days basis via VPN and AthenaX. The library is covered with a wireless network for students and staff (UGent & UGent WPA). Alternatively access to the wireless Eduroam network is provided. There is studying area for 130 students in both the library and pc-classes (70 PC's).

All bachelor students follow a formal course on information acquisition. For master students the Master Dissertation Coordinator yearly organizes information acquisition specifically focused on their Master's dissertation.

The library has a vast number of textbooks available on lease for students. In 2011, 1200 book loans were registered.

4.1.6.2 e-library (e-books, Web of Science)

The UGent Library Network chose to focus on an E-library: important publishers such as Elsevier and Wiley no longer provide hard copies. Only smaller practice-oriented journals still come in hard copy. For a full integration of the library catalogue, databases, books, e-books and journal subscription the SFX tool was developed by UGent Library network.

The library of FVMG started an e-book platform in 2010 in order to meet the demand for a better availability of books.

4.1.7 Opportunities for self-study and interactions with the teaching staff

Through the University Library website, all students have access to e-books and electronic journals of all major scientific editors. These can be accessed from the computer classes, from the students' personal computer or from any other computer through the student's personal access code.

For part I of the Master's dissertation (literature review), each student has to make a synthesis of the scientific literature on a specific topic, chosen from a list that is provided by the teaching staff. During this work, the student gets feedback from the dissertation supervisor(s) by e-mail and by face-to-face meetings (a minimum of 3 personal meetings are required).

For part II of the Master's dissertation, the students can either work up a number of clinical cases or perform scientific research on a topic of choice. For both parts of the Master's dissertation, each student is supported and supervised by 1 or 2 members of the teaching staff. The organization, effect and use of the supervision have been analyzed by UGent in 2010. The findings were discussed inside the FVMG whereby a remediation has been performed.

In several courses of the Master's programme, the students are asked to prepare case studies (either alone or in group), to present these case studies and to discuss their approach to the case study with their peers and the teaching staff. These case studies stimulate self-tuition, encouraging the students to apply factual knowledge from pre-clinical courses to solve a clinical problem and to integrate knowledge and skills from different courses.

4.1.8 Promotion of life long learning

Final year students of the different tracks are encouraged during their studies to attend local, national and international meetings in order to understand that lifelong learning is essential during their further career.

Examples:

- Track 'Equine Medicine': meetings of the Belgian Equine Practitioner Society (BEPS), of the Scientific Association of the Health of the horse and of the British Equine Veterinary Association (BEVA), and different continuing education courses from the Institute for Permanent Training (IPV) at the FVMG
- Track 'Ruminant Medicine': meeting of the Buiatry and different continuing education courses from the Institute for Permanent Training (IPV) at the FVMG
- Track 'Pigs, Poultry, Rabbits': meeting of the International Pig Veterinary Society (IPVS) and different continuing education courses from the Institute for Permanent Training (IPV) at the FVMG

Since January 1st 2013, the Veterinary Chamber has made continuing professional development obligatory for all practitioners.

4.2 Assessment of learning opportunities

The provision and quality of the learning opportunities are assessed at faculty / university level (internal quality control) and through evaluations by third parties (external quality control).

4.2.1 Internal quality control

The library services are subject to a quality control on 2 levels:

- The UGent library network is managed by the Interfaculty Library Board in which all faculties are represented. The Interfaculty Library Board decides on the general policy of the network. In 2010 the core of this network, the University Library, invited an external expert to evaluate the quality of the interlibrary loan services of the UGent library network. As a result of this, the Faculty Library started its own interlibrary loan service in September 2012. The University Library continuously evaluates the quality of the entire network.
In 2012 the University Library carried out a satisfaction survey (Libqual) in which all UGent libraries asked their customers about the quality of the service using an online survey. With this survey, the University Library hopes to get a clear picture of the expectations of its customers and the way to meet them.
In 2012 the University Library organized a screening of the digital library. As a result, library servers were moved to the Information and Communication Technology Department (DICT) and a new library network website (<http://lib.ugent.be>) was introduced.
- The library of the FVMG is managed by the Faculty Library Committee. Both students and members of academic and administrative staff are members of the Faculty Library Committee. The Faculty Library Committee advises the Faculty Council on the policy of the faculty library, mainly focusing on collection development. The library facilities and the services provided by the faculty library are assessed by the Faculty Library Committee on a yearly basis.

The Information and Communication Technology Department of UGent is evaluated by the University's Computer Committee in which all faculties and students are represented. The University's Computer Committee is a consultative body on matters of computer application in education and scientific research. The University's Computer Committee is the channel of communication between the faculties and their PC needs on the one hand and the Information and Communication Technology Department on the other hand. It meets on an annual basis and its meetings reports are submitted to the Faculty Council of the FVMG.

Finally the assessment of students' learning opportunities is included in the formal procedures for assessment of the students' course evaluations and in the study programme evaluation by the university and the Education Quality Control Unit of the FVMG.

One of the evaluated dimensions within these course evaluations and the study programme evaluations deals with the provision and quality of the learning material, as can be seen in annex 3.1.

Students and student organizations and teaching staff may contact the Education Quality Control Unit of the FVMG, the Director of Studies or the Dean at any time and bring up issues concerning learning opportunities. This possibility is considered as an integral part of the daily internal quality control.

Students are encouraged to raise any questions or complaints concerning learning opportunities with the designated staff members at the earliest convenience, as complaints that are dealt with informally at an early stage have the best chance of being resolved effectively. When informal procedures have failed to resolve the problem, students may bring a more formal complaint under the Student Grievance Procedure by contacting one of the Faculty Ombudspersons. The Faculty

Ombudspersons treat complaints from students and staff members relating to the implementation of the EEC and/or the provisions governing the legal position of students and/or situations which are perceived to be unfair within the wider framework of educational or examination events.

4.2.2 External quality control

Part of the quality control strategy of UGent is to seek evaluation and accreditation of its educational programmes by relevant external organizations, including the “Nederlands-Vlaamse Acreditatie Organisatie” (NVAO)). This organization is responsible for the accreditation of study programmes. In Flanders the accreditation normally is based upon the public report of an evaluation commission of peers (visitatierapport). Such an accreditation has an duration of 8 years. In 2004, EAEVE came to the FVMG for an evaluation and accreditation of the veterinary study programme. The accreditation by EAEVE was homologated by the NVAO in 2005 and led to an accreditation of the bachelor and master programme till 30/09/2014. In order to renew this accreditation in time the evaluation and accreditation assessment by EAEVE was scheduled in 2013.

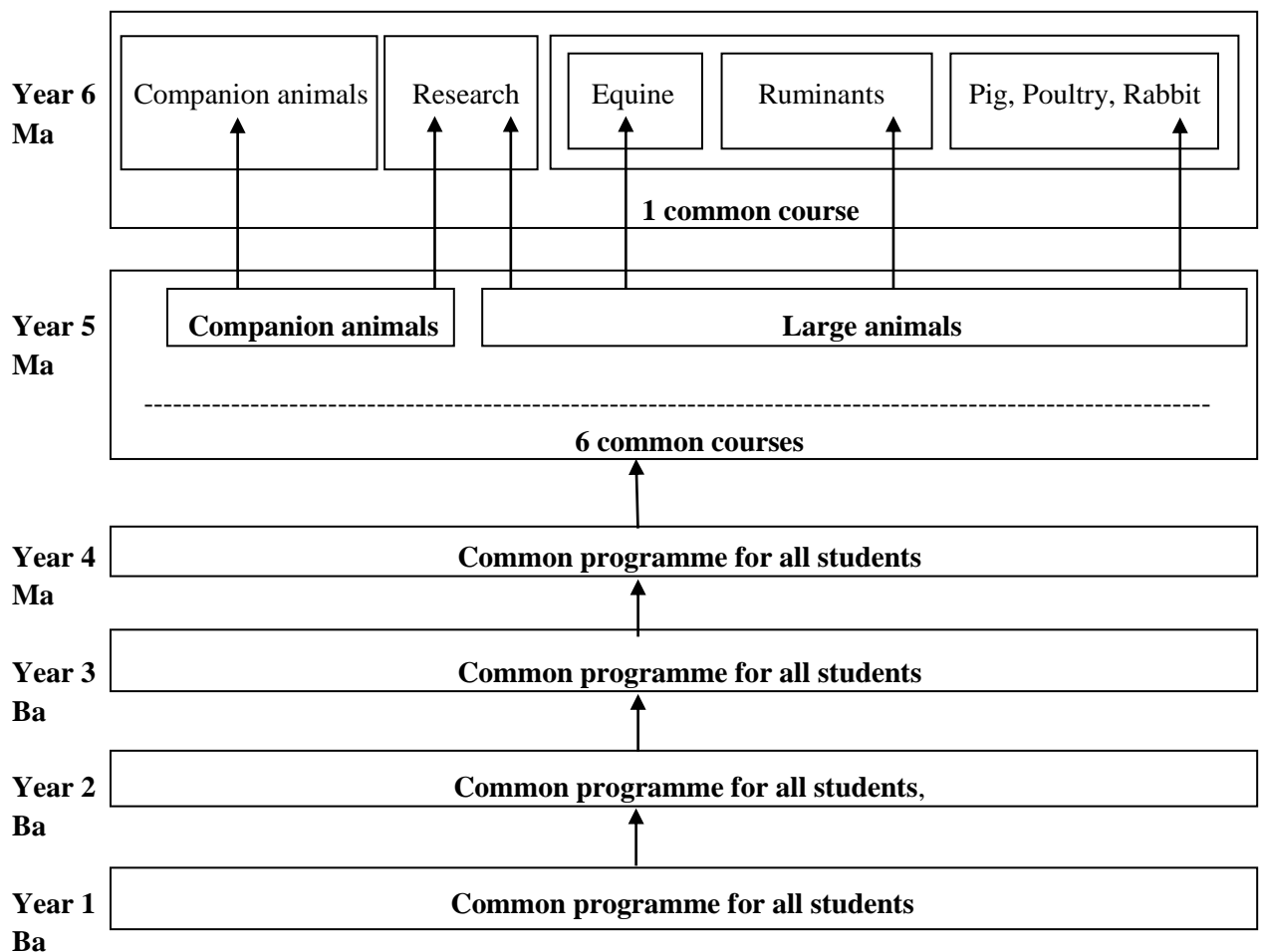


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5.1 Factual information

The current veterinary study programme (Figure 5.1) was implemented in 2006 and has replaced the old study programme. The present study programme implements the structure provided by the Bologna Declaration and constitutes a 3-year Bachelor’s study programme of 180 ECTS (European Credit and Transfer System) credits and a 3-year Master’s study programme of 180 ECTS credits. Consequently, a full study year is equivalent to 60 ECTS credits with 1 ECTS credit being equivalent to an estimated student workload (including course preparation) of 30 hours. Hence the annual workload for students is estimated at 1800 hours per year.

Figure 5.1: Schematic overview of the study programme at the FMVG.



The [study programme](#) is available on the UGent website in [Dutch](#) and [English](#). For each course, it covers the course characteristics including the course load (in ECTS credits),

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content, didactic approach, exam procedure, suggested textbooks, intended learning outcomes, and the relationship of the course to the objectives of the study programme and how it contributes to these objectives. The objectives of the study programme are based on the Day 1 competences required by the EAEVE.

The veterinary study programme as formulated in 1992 (slightly adapted in 1997 and 2003) was evaluated by the EAEVE in 2004. The EAEVE evaluation in 2004 suggested potential areas where the study programme could be improved. Actions were taken, and most improvements were performed in the 2005 study programme revision in which the BaMa educational structure of the Bologna Declaration was also adopted. The study programme revision process was initiated and supervised by the Study Programme Committee and the Director of Studies.

The purpose was:

- To ensure that all new EAEVE Day 1 competences were included in the study programme and course descriptions.
- To further improve the study programme as suggested by the EAEVE in 2004.

The innovated study programme is fully in line with the ACVT-EAEVE requirement that *“specialization should be encouraged, especially in clinically subjects (²)”* and with the recommendation that *“it is desirable to combine the acquisition of basic knowledge in all fields of veterinary science with more advanced training in one given field, which will enable qualified veterinarians to begin their careers with more confidence and autonomy (up to 20 per cent of the total training time should be devoted to this aspect) (¹)”*.

The actual study programme contains several major advantages:

1. It still provides an omnivalent training in all subjects that are listed in the EAEVE requirements. The common study programme of 4.5 years, during which all topics of veterinary medicine are covered, guarantees an omnivalent diploma.
2. By offering an advanced training in the various elective tracks, students will graduate with an increased starting competence in the particular domain of their choice.
3. Course contents overload can be reduced for all students, offering possibilities for either more in-depth training (Companion animals) or for an elaborate competence in expanding fields of the profession (Veterinary public health).
4. Practical and clinical training of senior students is much improved as both the number and the size of the clinical rotation groups are reduced.
5. Highly motivated final year students will make optimal use of the patient material that they encounter in the clinics of their specific elective track.

On the other hand, the actual study programme contains also some minor disadvantages:

1. Students must make career choices after 4.5 years of studies, i.e. one semester earlier than in the past.
2. Graduated veterinarians will have somewhat different competences:
 - Veterinarians who studied the elective track 'Companion Animal Medicine' will

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have a limited training in clinical skills for production animals and Veterinary public health.

- Veterinarians who chose the elective tracks 'Equine Medicine', 'Ruminant Medicine' or 'Pig-Poultry-Rabbit Medicine' will have only basic clinical skills for Companion animals.
- Graduates who took the elective track 'Research' will have less practical training in clinical skills and Veterinary Public Health.
- Graduating students however do receive an omnivalent basic training, but they will no longer have the illusion of being omnicompetent. Instead, they will have a higher starting competence in the specific field of the elective track that they have chosen.

However, reconversion training programmes, called long-term postgraduate courses ("Vakdierenartsen") are organized by the Institute of Permanent Training ('IPV') for graduated veterinarians who want to acquire additional competences other than those achieved during their basic training (see paragraph 5.7).

5.2 Intended learning outcomes

The intended learning outcomes and essential competences of the veterinary medicine study programme at graduation have been determined and are published in the Programme Catalogue of UGent. A detailed description of these learning outcomes is available at the following sites and in annexes 5.1 till 5.6.

Companion animal track (click on 'Learning outcome'):

<http://studiegids.ugent.be/2012/EN/FACULTY/G/MABA/GMDIERGD/GMDIERGD.html>

Equine track (click on 'Learning outcome'):

<http://studiegids.ugent.be/2012/EN/FACULTY/G/MABA/GMDIERPA/GMDIERPA.html>

Ruminant track (click on 'Learning outcome'):

<http://studiegids.ugent.be/2012/EN/FACULTY/G/MABA/GMDIERHK/GMDIERHK.html>

Pig, poultry and rabbit track (click on 'Learning outcome'):

<http://studiegids.ugent.be/2012/EN/FACULTY/G/MABA/GMDIERVP/GMDIERVP.html>

Research track (click on 'Learning outcome'):

<http://studiegids.ugent.be/2012/EN/FACULTY/G/MABA/GMDIERON/GMDIERON.html>

These learning outcomes have been redacted by the teaching staff of the FVMG and have been discussed and approved by the Study Programme Committee and the Faculty Council.

The published version on the website at the present moment has been finalised in 2007. This version is a more elaborated version of the previous version, but is still a document that is mainly focussed on the entire study programme and therefore does not make a clear distinction between the learning outcomes of the Bachelor's and Master's programmes. A preliminary version of the specific Bachelor learning outcomes had been created in 2005 during the preparation for the implementation of the BaMa structure of the BaMa structure, but due to time constrictions it is a rather concise document. This document can be found in annex 5.7 and on:

<http://studiegids.ugent.be/2012/EN/FACULTY/G/BACH/GBDIER/GBDIER.html> (click on 'Learning outcome').

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A project was started in 2010 to update the 2007 version to the changing needs of the profession and to the changes in the study programme, especially the implementation of the BaMa system. These new objectives were prepared by staff members of the FVMG, especially by the coordinators of the different tracks within the study programme, and were afterwards discussed with the students and alumni.

The students were involved by means of a survey during which they could score to what extent the learning outcomes of the Bachelor's and Master's programmes were reached during these study. The alumni were contacted through the different veterinary organizations (equine, bovine and swine practitioners, small animal organizations and the society of veterinarians working in public offices or industry) to give their opinion on the relevance of the proposed learning outcomes.

In the annexes 5.8 till 5.13, the 2012 versions of the learning outcomes for the Bachelor's and Master's study programmes are listed.

The results of the surveys will be discussed during the forthcoming meetings of the Study Programme Committee and actions will be taken to adapt the description of the learning outcomes and/or to adapt the study programme. In annex 5.14 an example of the results of the assessment of the expected learning outcomes by the students is presented. The example of the students from the Equine track is used: in the table the knowledge and skills scores both from the Study Programme Committee and from the students are shown. In general there is a rather good agreement between the expected levels and the perception of the students. These results are currently being discussed by the Study Programme Committee.

The revised version of the learning outcomes of the Bachelor's and Master's programmes will be published in the UGent Programme catalogue of the academic year 2013-2014.

5.3 Procedures for formal study programme approval, review and monitoring

The specific contents of the study programme are developed by the FVMG, since there is no specific national study programme. Therefore, UGent has installed Study Programme Committees and Education Quality Control Units in each of the faculties to develop, supervise and evaluate all study programmes that are offered. The FVMG has one Study Programme Committee, which was installed in 1992, and one Education Quality Control Unit which started in 1999. The contents and structure of the study programme, as proposed by the FVMG, have to be approved by the university and additionally by the Flemish government. For this purpose, an accreditation organization has been installed that accredits all curricula and study programmes in Flanders and in the Netherlands after evaluation by a peer review panel. This organization is "Nederlands-Vlaamse Accreditatie Organisatie" (NVAO). With regards to the veterinary education in Flanders and in the Netherlands, the NVAO uses the results of the EAEVE visitation and accreditation.

The Education Quality Control Unit consists of the Director of Studies (Senior Full Professor), the Dean, the Chairperson of the Study Programme Committee, a

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permanent Secretary (DVM) and 2 students. They evaluate the quality of the programme contents, the didactic methods and equipment used for teaching, and the didactic expertise of the teaching staff. They discuss possible innovations of the teaching programmes and formulate proposals for study programme adaptations to the Study Programme Committee. In summary, the major task of the Education Quality Control Unit is to support the Study Programme Committee of the FVMG in its activities related to the assessment and maintenance of the quality of the veterinary study programme.

As every faculty of UGent, the FVMG has a Study Programme Committee acting as a permanent advisory body with regard to general policy and organization of the veterinary studies.

According to the rules stipulated by UGent,

- at least half of each Study Programme Committee is made up of the academic staff who is involved in educational activities and,
- at least one third of each Study Programme Committee are students.

The Study Programme Committee at FVMG includes 1 representative from each department (corresponding in total to 12 members), 1 representative from the academic assistant staff and 8 students (with at least one student from every study year) for a total of 21 voting members. The committee has a Chairperson and a secretary, assigned by the Faculty Council and chosen within the department representatives. Additionally, the Dean, the Head of the Education Quality Control Unit, the Learning Track Counsellor and a representative of the University of Antwerp are advisory members (without voting rights).

The Study Programme Committee is in charge of:

- defining the learning objectives and the implementation of appropriate teaching methods. Within the revised quality control system of the university, the Study Programme Committee will also be responsible for the achievement of the learning outcomes.
- consistently optimizing the quality of the education on offer.
- setting up the entire study programme construction for the study programme (development, implementation and evaluation).

The Study Programme Committee is an advisory committee and has to report all its proposals to the Faculty Council for approval. Consequently, the final decisions on changes in the veterinary education are taken by the Faculty Council, taking into consideration the prerogatives of the Board of Governors of UGent.

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

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Changes to improve the study programme, e.g. allocation of hours between the various subjects, the balance between theoretical and practical teaching, and course contents are thoroughly discussed in the Study Programme Committee, taking into consideration the evolution in veterinary profession, the guidelines from UGent, the Flemish government and Europe, the opinion of the students expressed in the annual enquiries that are organized by the university and assessed by the Education Quality Control Unit of the FVMG, and the opinion of academic staff members with expertise in the novel subjects. After a consensus is reached within the Study Programme Committee, proposals are submitted for approval to the Faculty Council and hence to the Board of Directors of UGent for official acceptance. The FVMG therefore has a relatively large degree of freedom concerning study programme changes, as long as the final competences as required by the different accreditation organizations are reached.

Evaluation of delivery of the study programme is organized both by the FVMG and the Department of Educational Affairs of UGent. This is performed by means of several formal assessment procedures that take place at fixed intervals. Both internal evaluations (students, academic staff and alumni) and external (international visitations) evaluation procedures are organized.

At the FVMG, the Education Quality Control Unit evaluates every course at least once every 2-3 years through an anonymous electronic survey filled in by the students. This evaluation is a measure for the quality of study programme including the teaching style, the course content, the organization of the course, the teaching material and the examinations (annex 1.1: Example of questionnaire (evaluatieformulier)).

The results of these evaluations are discussed within the Education Quality Control Unit in the presence of student representatives, and are reported to the lecturer, the Head of the Department and the Study Programme Committee. The final evaluation report concerning the teaching process is added to the lecturer's personal education file and can be consulted by promotion committees. Whenever the Education Quality Control Unit judges that improvements are possible or needed, a meeting with the lecturer is organized to discuss and monitor possible ways of remediation. In these cases the course is re-evaluated the following year to follow the effects of the changes. In cases of continuing problems with the quality or the content of teaching, the department involved can be requested to propose a change of lecturer.

The Education Quality Control Unit is also responsible for the organization of the study time measurement, which is performed at least after each study programme update to evaluate the study load of each course. This allows to monitor and avoid an excessive study load per course and hence in the overall study programme. The final goal of this study time evaluation is to assure that the study programme is delivered in a "learnable" way, i.e. in a way that the different courses respect the allocated study time as described in the ECTS based course sheet and that the students do not get overwhelmed by an excessive study load.

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This study time measurement was originally performed in a retrospective way (i.e. students were asked to give an impression on study time after having completed a model track year). Since the academic year 2006-2007 this system has been changed into a prospective system. In this prospective system students are allocated to small cohorts (approximately 10 % of the total number of students) and are asked to record their actual daily time use on a form. In this way every student will only have to participate during 3 to 4 weeks over a period of a year. A presentation of this study time measurement system can be found at :
http://icto.ugent.be/files/intro_stm_en.pps

This study time measurement provides information on several aspects:

- Overview of the global study time per week and per year
- Actual learning time spent per course and its deviation from the allocated learning time
- Overview of self directed learning versus planned study activities per course and per academic year
- Distribution of different learning activities over the academic year and per course unit
- Information on study place (home, library, ...)
- Quantity of cooperative learning

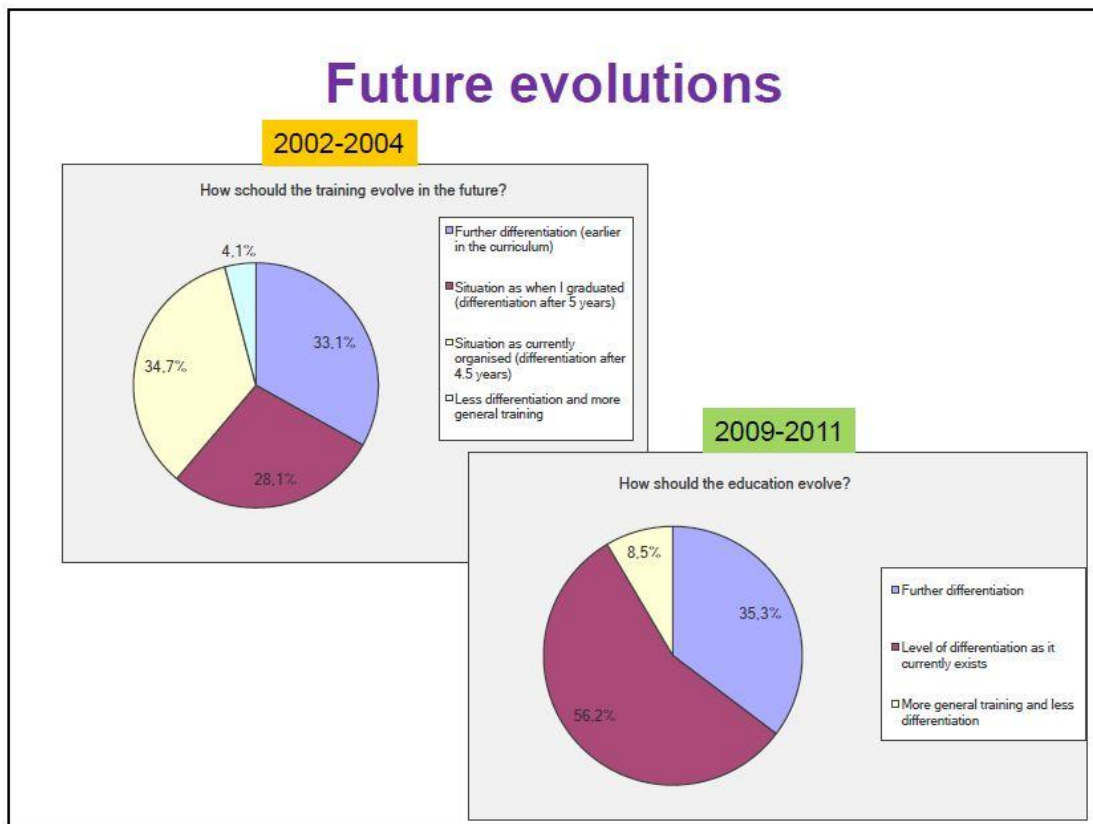
In annex 5.15 an example of the results of the study time measurement (2008 measurement of fifth year) is shown.

The results of these study time measurements are discussed in the Study Programme Committee and are used to adapt and improve the study programme. One of the major conclusions of the study time measurement over the years is that the total study load within the veterinary study programme is rather high, compared to other study programmes. As can be seen in annex 5.15, several courses exceeded the programmed learning time: one course took approximately 114% more than the allotted time. One of the main focuses of future study programme changes will therefore be a reduction of the study load of the programme. Some minor adjustments have already been implemented, such as the implementation of an overall decrease in study load in the fifth year (second master).

The Study Programme Committee organizes a survey of the alumni every 6 years for monitoring practical utility of the study programme (Table 5.1). This survey gathers information concerning the quality, content and teaching methods of the study programme with respect to the changing needs of the profession. This survey is of major importance for the FVMG since this survey, together with the UGent alumni survey, is the main source of statistically relevant feedback from the alumni.

The results of these surveys are discussed within the Study Programme Committee and are used to adapt and improve the study programme. A summary of the results of these surveys can be found in annex 5.16. An important issue in these surveys was the evaluation of the most recent study programme changes, i.e. the introduction of the tracking system. As can be seen in Figure 5.1, the vast majority of the alumni are in favour of the tracking system.

Figure 5.2: Results of question on tracking.



Additionally the Department of Educational Affairs of UGent organizes general evaluations of all study programmes (Table 5.1). These include:

- 1.) every 2 years an evaluation of the full Bachelor's and Master's programmes by the students that recently graduated.
- 2.) every 3 years inquiries among alumni.

These surveys aim at measuring the quality of the education provided by the faculties and, specifically for the alumni, the way the study programme has adequately prepared the students to the profession. These centrally collected results are discussed within the Department of Educational Affairs of the university and distributed to the respective Study Programme Committees for interpretation and feedback. Within the frame of the University Quality Control system, the results and eventual remediation are annually reported and evaluated by the Office for Educational Quality Control of the Central Administration of UGent.

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Table 5.1: Summary of the evaluation of teaching and learning quality by the concerned parties.

	<i>Time interval</i>
Study Programme Committee - Alumni (specific information for veterinary medicine)	6 years
Education Quality Control Unit - Academic Staff evaluation - Learning time evaluation	3 years after curricular changes
UGent Department of Educational Affairs - Bachelor's/Master's study programmes - Alumni (general information on all the study programmes)	2 years 3 years

Finally, the FMVG is submitted to external control (accreditation) by the NVAO (Nederlands-Vlaamse Accreditatie Organisatie - <http://www.nvao.net/>) every 8 years and, of course, the EAEVE evaluation and accreditation.

Informal activities such as regular dialogue with internal and external stakeholders also play an important, albeit less formal, role in the continuous evaluation and improvement of the study programme.

5.4 Application of the ECTS system and evidence for its use

UGent was amongst the first universities in Europe that successfully applied for an ECTS label (2004). UGent implements ECTS for structuring all its internal study programmes and all its student exchange programmes, and has been re-awarded the ECTS label in 2009 which is valid till 2013 (<http://www.ugent.be/en/teaching/ects>).

The ECTS system is fully in use in FVMG and is integrated in the Students Administration software (automatic production of Transcript of Records and Diploma Supplements) in both Dutch and English languages. ECTS data have to be yearly updated for every course and are one of the core components of the course sheet. It is stipulated in the EEC that the course sheet including the ECTS data has to be updated every year before the first of June and has to be approved by the Faculty Council.

The ECTS information package is the result of an ongoing process of updating and fine-tuning and is especially useful for international students exchanges (internationalization). For example, the clinical Erasmus programmes for students at the FMVG comprise packages of 8 ECTS credits (<http://www.ugent.be/di/en/education/internationalization/index.htm>).

5.5 Assurance concerning the participation of students in quality assessment activities

UGent structurally regulates the participation of students in the development of the study programme and of all quality assessment activities. All committees related to educational affairs must include students' representatives.

At the level of the faculty,

- the Study Programme Committee, which is the primary body for study programme development and monitoring, has to include at least one third of students with voting rights (EEC, Article 34).
- the Education Quality Control Unit has to include at least 2 students (EEC, Article 97, *5).
- the Faculty Council, which has to approve all advices from the Study Programme Committee and Education Quality Control Unit, must include (a maximum of) 25% of students (report meeting Board of Governors from 24-05-1996).

At the level of the university,

- the Council of Educational Affairs, which is the primary advice organ for education for the Board of Governors, must include eight students with voting rights on 26 voting members (decision of the Board of Governors of 28-03-2003).
- the Board of Governors, which has to approve all advices from the Department of Educational Affairs, must include 4 students with voting rights on 34 voting members.

(<http://www.ugent.be/nl/univgent/bestuur/bestuursorganen/rvb/overzicht.htm>).

As described in chapter 5.3, students are the main actors involved in the evaluation of the individual courses, lecturers and the global study programme. This is mainly done by electronic surveys in which the participation of students is not mandatory but strongly encouraged. These evaluations are only valid if a statistically relevant participation is achieved. Several methods are used to motivate students to participate, e.g. reminder mails through *Minerva*, recruiting activities by the students' representatives, calls during lectures, etc..

5.6 Parameters assessed and procedures to monitor regular feedback from stakeholders and graduates

Procedures to obtain feedback from the recently graduated students and alumni include:

- 1.) an evaluation of the full Bachelor's and Master's degrees by the recently graduated students every 2 years and,
- 2.) inquiries of the alumni every 3 years (see also paragraph 5.3).

In annex 5.17 the dimensions are described that were evaluated for the master study programme during the 2012 study programme evaluation.

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The survey performed every 2 years by UGent by questioning the recently graduates is mainly focused on general information on the learning process and outcome. The parameters that are assessed during the most recent survey included the following categories: "evaluation", "cooperative learning", "internationalization", "structure", "pedagogical approach" and "overall satisfaction". Some parameters have been changed over subsequent evaluations in order to minimize the length of the individual surveys, and to ensure that a maximum number of dimensions is questioned over the years.

The survey performed every 3 years by the university among the alumni is more focused on gathering feedback on how efficiently the study programme has prepared the students for their professional careers. In this respect, an important question in these evaluations is: "How did the study programme adequately prepare you on your future career?" In Figure 5.3, the university-wide answers to this question in the 2012 survey are presented.

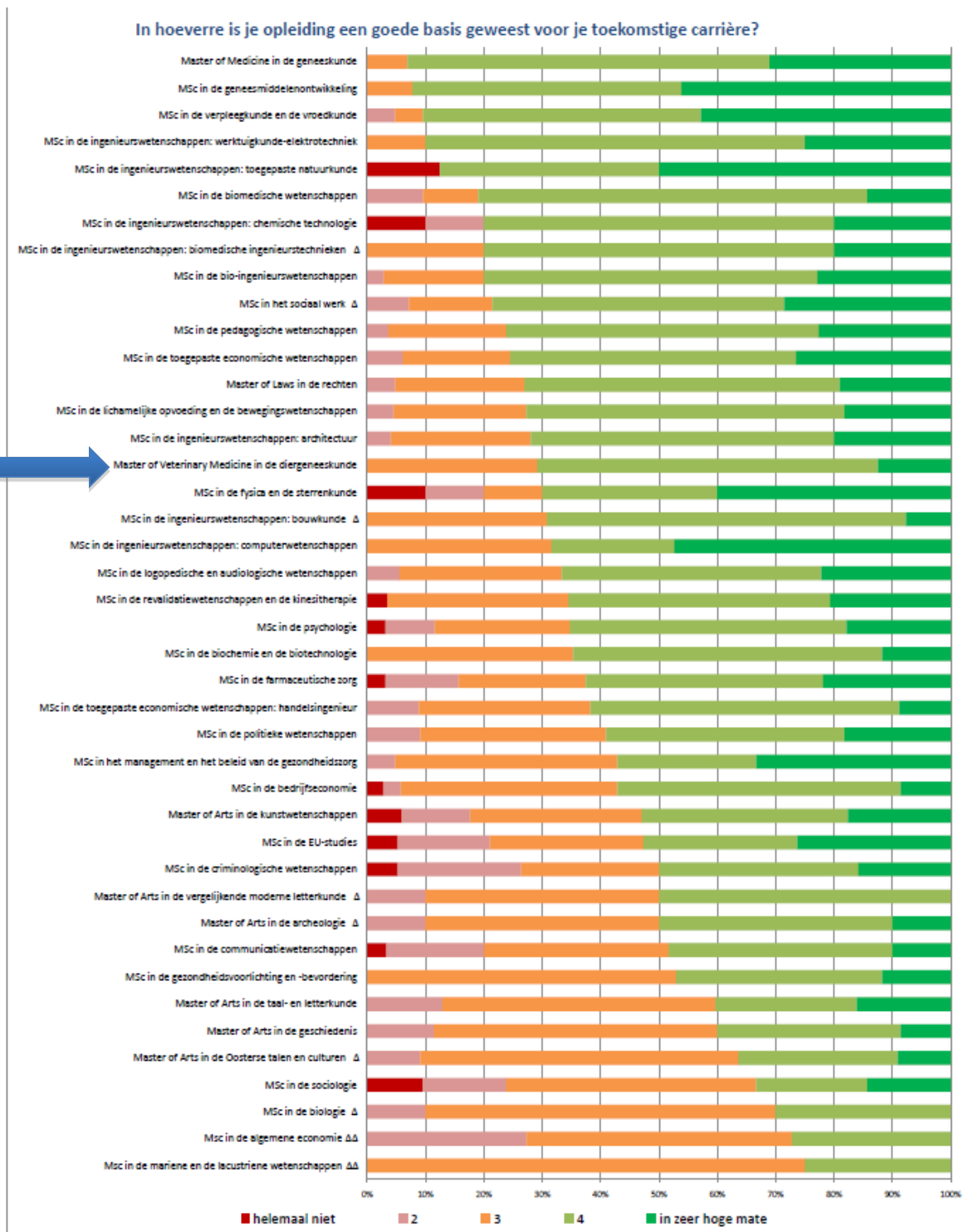
The survey performed every 6 years by the FVMG among the alumni is focused on specific information on the veterinary profession, e.g. activity in the field related to the chosen track in the last year of studies, country of activity, evaluation of the study programme and of the courses given during the study programme in relation to the professional activity,

As mentioned under 5.3, this survey is of major importance for the FVMG as this survey provides more specific and factual information on the veterinary study programme and learning outcomes than the more general surveys that are organized by UGent.

The feedback procedures from the stakeholders are at this moment less formally organized, due to the high number of professional organizations. However, members of the faculty staff are present in virtually all professional organizations and through these contacts continuous feedback is given to the Study Programme Committee or Faculty Council whenever the veterinary study programme is discussed in these committees. In order to continue the active participation of faculty members in these organizations, the FVMG encourages these activities by rewarding them during the academic staff evaluations under the section of "service to the community".

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Figure 5.3: Results of the 2012 university survey among the alumni on the question “How did the study programme adequately prepare you on your future career?”



5.7 Provision of a structure that promotes lifelong learning

Because continuing education is considered an important issue at the FVMG, a special body was established for this purpose in 1992. The Institute for Permanent Training ('IPV') organizes several courses for continuing education. It is run by a part-time Director (currently Prof. D. Maes) and two full-time secretaries. The courses are organized with the help of coordinators, in most cases Professors at the FVMG. There are coordinators for ruminants, horses, swine, small animals, veterinary public health and practice management. The budget of the Institute for Permanent Training consists of registration fees and sponsoring. It is used to pay the expenses of personnel, speakers, catering, mailing and printing costs, etc..

The Institute for Permanent Training organizes two types of education:

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

Each year, several modules of continuing education are organized. Each module deals with a specific subject, and takes a few days to one day, half a day or one evening. The subjects vary from year to year. The complete programme of all modules of one year can be consulted at the website <http://www.ipv-dgk.ugent.be/v3/pages/programmas/> . Each module is awarded a certificate of attendance handed out by the Institute for Permanent Training (see annex 5.18). The attendance to permanent education courses is compulsory for veterinarians who want to obtain the "Good Veterinary Practice" certificate and has become compulsory for all practitioners since January 2013 . The purpose of the long-term postgraduate courses, "Vakdierenarts", is to update and to extend the knowledge within specific species. The courses take 2 years (ruminant, pigs and horses) or 3 years (small animals) on a part-time basis (Table 11.1.a).

Table 5.2. Courses for specialized practitioners organized from 2004-2011

2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
specialized practitioner for pigs 1 st year	specialized practitioner for pigs 2 nd year		specialized practitioner for ruminants 1 st year	specialized practitioner for ruminants 2 nd year		specialized practitioner for horse 1 st year
specialized practitioner for small animals 1 st year	specialized practitioner for small animals 2 nd year	specialized practitioner for small animals 3 rd year	specialized practitioner for small animals 1 st year	specialized practitioner for small animals 2 nd year	specialized practitioner for small animals 3 rd year	specialized practitioner for small animals 1 st year

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Participants of the long-term postgraduate course on small animals are required

- 1.) to keep a logbook of the patients they follow up during the courses at the FVMG
- 2.) to take an exam at the end of each year
- 3.) to make a thesis

After successful exams and a positive evaluation of the logbook and of the thesis, UGent hands out a certificate.

Participants of the large animal courses also have to write a thesis and take an examination after the final year. When they are successful, UGent hands out a certificate.

The lecturers for the continuing education courses mostly belong to the academic staff of the FVMG. For specific subjects, national and/or international expert guest speakers are invited.

An additional tool for continuous professional development is provided by the Flemish Veterinary Journal (“Vlaams Diergeneeskundig Tijdschrift”), published by the FVMG. This scientific journal is published bimonthly (6 issues per year) and presents mainly clinical topics.

It focuses on 3 different types of public:

- 1.) the local Dutch speaking veterinarians in Belgium and the Netherlands
- 2.) the international veterinary, agricultural and biomedical research community
- 3.) the students (who are encouraged to subscribe to the journal at a low price)

Each issue contains different scientific papers in English and in Dutch with an English abstract. The journal is covered by Current Contents, the Web of Science, and other indexing services. An overview of the contents can be found on

http://vdt.ugent.be/browse_volume.php.

Students are encouraged to write a paper based on their Master’s dissertations, and to publish their results in the Flemish Veterinary Journal (“Vlaams Diergeneeskundig Tijdschrift”) (Table 5.3).

Table 5.4: Articles based on Master’s dissertations submitted and published in the Flemish Veterinary Journal from 2007 to 2011.

Year	Submitted	Published
2007	10	7 (70%)
2008	9	9 (100%)
2009	11	10 (91%)
2010	12	11 (92%)
2011	12	10 (83%)

From the year 2010-2011 onwards, a number of Institute for Permanent Training courses were organized using a live streaming system, so that participants could follow the courses via their PC at home. Because of the very positive feedback by many participants on this type of distance learning, many more courses were offered in this

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way in 2011-2012. The Institute for Permanent Training aims to offer all courses in this way from 2012-2013 onwards.

The FVMG has at present 56 Diplomates of 19 different European Colleges being recognized as European specialists by the European Board of Veterinary Specialisation (EBVS). Two of these Diplomates are also recognized by an American College, while 3 Diplomates have been accepted by both colleges. Fifty-one Diplomates work full time at the FVMG with only 5 part times (Table 2.6, Chapter 2).

Rotating interns are assigned to one or more departments inside the FVMG where Diplomates of different colleges are active. These interns get a broad education in a specific animal species or subject, focusing on the essential training before starting a residency (Table 2.7, Chapter 2). Residents are supervised by one or more Diplomates of one or several colleges. The internship and residency programmes are organized in a number of formats. Interns follow a one-year programme while residents have a 3 to 5 years programme (depending on the College). The programmes of rotating interns and residents are integrated mainly into the clinical organization of the FVMG. The final goal of this system is to assure a high standard of all disciplines whereby the resident is encouraged to sit the European exams at the end of his residency programme.

All interns/residents are financially supported by UGent or by the FVMG since they are enrolled by the central administration as students, having a study grant and access to all facilities for students. The FVMG gives financial support per College to the different departments involved, while the remaining interns/residents are paid by incomes of the clinics or other financial resources. The FVMG, by means of the Institute for Permanent Training and by appointment of one responsible staff member, has a supervising role towards the internship/residency system.

The provisions for continuing education described above are of course mainly focused on graduates and alumni, but the FVMG actively encourages the undergraduate students to participate in the activities of continuous professional development during their studies, thereby aiming at the development of an interest for lifelong learning after graduating.

Most lecturers do emphasize the importance of lifelong learning during the lectures, and students of the final year can participate free of charge in the courses for continuous education offered by the Institute for Permanent Training.

Additionally, participation in selected Institute for Permanent Training courses is mandatory for students of the large animal tracks. In this way the students can develop a taste for continuous education during their studies and get acquainted with their future veterinary colleagues.

The responsible coordinators of the equine, ruminant and pig/poultry/rabbit tracks also annually organize a number of continuous professional development courses, which specifically aim at introducing the students of the final year to the postgraduate continuing education courses and the professional organizations. Some of these courses are concluded by a social event at the end of the course (barbecue or informal dinner). An example of such an event is the annual British Equine Veterinary Association (BEVA) course, organized for the students of the equine track, during

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which the UK system of continuous education is presented.

Finally, since the introduction of the distance learning system, the recordings of the Institute for Permanent Training courses are freely available to the students through the Veterinary Digital Platform on Minerva, thereby giving all students easy access to these courses.



6 CHAPTER 6 - ASSESSMENT OF QUALITY ASSURANCE SYSTEMS FOR CLINICS, LABORATORIES & FARM

6.1 Quality assurance for the clinics

6.1.1 General information

In all clinical departments 3 groups work closely together, viz. the academic staff (autonomous academic staff and academic assistant staff), the supporting staff (administrative and technical staff including secretaries, nurses and animal caretakers) and the students. The clinical departments are basically separate units, but through regular meetings and information exchange, quality assurance in these departments is based on identical principles and approaches.

6.1.2 Assurance of scientific quality

In all clinical departments, Diplomates of the European (or American) clinical colleges are active. The incorporation of these Diplomates in the clinics has deliberately been installed and promoted by the FVMG. The creation of the specific personnel category Head of Clinic (“Kliniekhoofd”) has been a major step into the permanent presence of the Diplomates inside the clinics of the FVMG. Overall, any new position for a clinical Professorship includes, beside a number of other criteria such as a Doctoral dissertation, the Diplomate status in the respective European College.

The presence of Diplomates guarantees that the clinical work remains at a high scientific level. The system of re-accreditation of Diplomates, organized by the European colleges, additionally guarantees that this level of expertise is maintained throughout the years. Therefore this system can be regarded as a system of external quality assurance.

Incoming and outgoing residents, as well as regular international contacts and exchange of residents/supervisors, ensure that an informal system of benchmarking is present, making comparison with the scientific standards in other veterinary clinics possible.

6.1.3 Assurance of clinical quality

6.1.3.1 Academic staff members

In all clinical departments, regular (e.g. weekly) staff meetings are held, during which operational procedures are discussed and optimized. Between the large animal clinical departments, joint meetings are organized on a monthly basis in order to optimize and homogenize the operational procedures. A major issue during these meetings has been the improvement of the biosecurity guidelines. Due to the worldwide emergence of nosocomial infections (e.g. MRSA), changes have been implemented for the prevention of these infections.

6.1.3.2 Supporting staff

On a yearly basis a meeting is organized between an academic staff member (supervisor) and every member of the supporting staff, during which, amongst other items, the quality of their work is discussed and the strong and weaker points are mentioned. This is also the moment where possible ways to improve the quality are agreed on. Additional training (e.g. working with fork lifts, recertification every 5 years by an external company) is also discussed at these meetings. These yearly meetings work in both ways, meaning that the supporting staff members can also give their opinion on the quality of work of other personnel categories.

On a regular basis, meetings with the supporting staff are organized on departmental level during which protocols and procedures are discussed, ensuring that the supporting staff remains aware of the need for high quality standards.

The schedule for routine maintenance and cleaning procedures has proven to be a success and makes it easier for the supporting staff to organize their daily work.

6.1.3.3 Students

As the students are heavily involved in the clinical work, quality assurance is needed at this level too. Students of the 3rd bachelor year receive a copy of the biosafety guidelines at the FVMG during the course of hygiene. Students enter the clinical departments in their 4th year and receive plenary instructions on their conduct in the clinics in the first week of the 4th year (in the course of general surgery) and receive additional instructions at every department. During the 4th and 5th year, the students only work under close supervision of staff members, ensuring that all quality standards are met.

In the final year, students will often work without immediate supervision, and therefore additional quality assurance is put into place. At the end of the 5th year a general introductory lecture is organized and the notes of this lesson are distributed amongst the students. This lesson covers a wide range of topics, such as hygiene rules and codes of conduct towards patients and owners. During the clinical work in the final year, students are evaluated on a weekly basis in the departments where they receive clinical training. This evaluation is done by checking a series of competences, as is explained to them in the introductory lesson. This evaluation is of course used for their final marks, but it also serves as a system of quality assessment throughout the year: the results of these evaluations are given to the students on a regular basis and a feedback system is used to inform the students of eventual corrective actions to improve the quality of their clinical work.

6.1.3.4 Efforts made into cleaning and disinfection of the premises in the Clinical Departments of Large Animals

Cleaning and disinfection in the clinical departments of large animal medicine, surgery and reproduction have been subject to several improvements over the last years:

- Infrastructural changes: the stables are getting a gradual major renovation, including a thorough cleaning, a better ventilation system and an epoxy coating on the walls, enabling better disinfection.

- An improved disinfection protocol has been installed, whereby a foam-based cleaning product has been added to the high-pressure cleaning protocol in order to reduce biofilm accumulation.
- After disinfection a quality check is performed on a regular basis whereby the residual contamination is checked by using RODAC plates. The results of these controls are evaluated, additional disinfection is performed if needed, and the results are being shown *ad valvas*. If disinfection proves to be inadequate, the cleaning process has to be redone followed by a second bacteriological check.
- A cleaning and maintenance schedule has been put into use, giving the supporting staff a clear overview of which tasks need to be performed on a daily/weekly/monthly basis. After performing these tasks, the supporting staff has to sign off on a form, which is visible to all visitors and afterwards stored as a permanent record of the maintenance of the stables.
- Increased efforts into prevention of transmission of nosocomial agents
- All stables are equipped with gloves and hand-disinfection solution, to be used during contact with the patients. In the isolation stables and, if necessary, in the regular stables as well, additional protective clothing is issued and needs to be used.
- A uniform dress code has been issued, to reduce the risk of spreading contamination between departments or even outside the FVMG. The clothing worn in the clinical departments should not be used outside these places (e.g. classrooms) and lockers are available to the students to store their clinic outfit.
- Immediate isolation (either in their stable or in the isolation stables) of possibly infectious patients
- Immediate transfer of high-risk patients (e.g. *Streptococcus equi* or *Salmonella* suspected patients) upon arrival into the isolation stables. These protocols are implemented in the biosafety guidelines of the FVMG.
- Clear indications of high-risk patients at their stable doors.
- Awareness improvement for all personnel and visitors through discussions, training and leaflets.

At this moment, 2 external quality assurance systems are present at the clinical departments. Within the Department of Obstetrics, Reproduction and Herd Health the ambulatory service has obtained the Good Veterinary Practice (GVP) label after an external audit, while the Equine Semen Lab is a recognized centre for artificial insemination by the Flemish government. Both units are thereby obliged to undergo regular reaccreditation.

6.1.3.5 Guidelines concerning hygiene and biosecurity implemented in the Department of Medicine and Clinical Biology of Companion Animals

Cleaning, disinfection and biosecurity guidelines and protocols are present in the department of companion animal medicine:

- Daily cleaning and disinfection of hospitalization wards, dog/cat cages and kennels using a standardized cleaning and disinfecting protocol (based on halogenated tertiary amines disinfection solutions and tension-active based

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cleaning solutions). The supporting staff completes a daily maintenance form after performing the cleaning tasks. Additionally, a strict protocol concerning waste disposal (medical and non-medical waste) is respected

- Prevention of transmission of nosocomial agents
- All hospitalization wards are equipped with gloves and hand-disinfection solution, to be used during contact with the patients. In the isolation ward and, if necessary in the regular wards, additional protective clothing is issued and needs to be used
- A uniform dress code has been issued, to reduce the risk of spreading contamination between departments or even outside the faculty. The clothing worn in the clinical departments, is not be used outside these places (e.g. classrooms) and lockers are available to the students to store their clinical outfit
- Immediate isolation of possibly infectious patients with transfer of high-risk patients (e.g. *Leptospirosis* suspected patients) upon arrival into the isolation ward. These protocols are implemented in the biosafety guidelines of the FVMG. Clear indications of high-risk patients are placed at their cage/kennel
- Overall, awareness improvement for all personnel and visitors through discussions, training and leaflets are performed

6.2 Assessment of quality assurance systems for laboratory services

6.2.1 Internal quality assurance systems

The FVMG provides a range of laboratory services (Table 6.1).

Table 6.1: Overview of the departments (DI 0X) providing laboratory services at the FVMG.

Department	Laboratory services	Provided for	Quality assurance	
			Internal	External
DI 01 Comparative Physiology & Biometrics	Consultancy	FVMG Scientific community	√	
DI 02 Pharmacology, Toxicology & Biochemistry	Pharmacokinetic, bioavailability, residue and safety studies, bio-analysis of drugs for veterinary use Pharmacological and toxicological analysis of biological material	FVMG Scientific community Commercial enterprises	√	√
DI 03 Morphology	Histology Scanning electron microscopy Transmission electron microscopy	FVMG Scientific community Private companies	√	
DI 04 Virology, Parasitology & Immunology	Diagnostic Contract research Consultancy	FVMG Practitioners Commercial enterprises	√	

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DI 05 Pathology, Bacteriology & Poultry Diseases	Diagnostic Contract research	FVMG Practitioners	√	
DI 06 Veterinary Public Health & Food Safety	Analysis	Private companies Research centers Federal Agency for the Safety of the Food Chain	√	√
DI 07 Animal Nutrition, Genetics & Ethology	Consultancy Genetic analysis Imaging (IVIS Lumina)	FVMG Practitioners Animal owners / trainers Scientific community Commercial enterprises	√	
DI 08 Obstetrics, Reproduction & Herd Health	Contract research Consultancy Analysis	FVMG Practitioners Scientific community Commercial enterprises	√	
DI 09 Medicine & Clinical Biology of Small Animals	Diagnostic	FVMG Practitioners	√	
DI 10 Surgery & Anaesthesiology of Domestic Animals	Diagnostic	FVMG Practitioners	√	
DI 11 Medical Imaging of Domestic Animals and Orthopedics of Small Animals	Diagnostic	FVMG Practitioners	√	
DI 12 Internal Medicine & Clinical Biology of Large Animals	Diagnostic	FVMG Practitioners	√	

The FVMG is constantly seeking to provide the highest level of quality and safety for all its activities. It strives towards a general quality and safety policy, as illustrated below.

6.2.1.1 Personnel-related measures

In order to assure quality of the laboratory services, the following personnel-related measures are taken:

- All staff members are appropriately educated and trained
- New staff members are supervised by senior staff members until they are able to perform their tasks independently
- Students involved in any of the service-related tasks of a laboratory are being supervised by senior staff members
- Experimental procedures are documented in and performed according Standard Operating Procedures (SOPs)

- End responsibility for the evaluation of tests and for reports rests on the Heads of the respective departments/laboratories
- Dedicated laboratory staff and/or quality officers follow up quality assurance measures

As quality assurance also implies the assurance of safety and biosafety, the following related measures have been implemented:

- Safety and biosafety guidelines are documented in manuals that are provided to all staff members and students working in the respective departments. Manuals have been generated at **university level** as well as at department level. New employees and students have to sign a statement in which they agree to comply with the contents/work practices of the manuals
- A Safety Committee is active at the FVMG. It aims to maintain the safety of staff, students, general community and environment, and works in collaboration with the Health and Safety Department of UGent (<http://www.ugent.be/en/ghentuniv/healthandsafety>)
- A Biosafety committee is active at faculty level. It oversees all work with microbiological agents and, like the Safety Committee, aims to maintain the safety of staff, students, general community and environment. It works in close collaboration with the Environmental Department of UGent (<http://www.ugent.be/nl/univgent/welzijnmilieu>)
- In each lab/department, allocated personnel are responsible for the application of safety and biosafety regulations, under supervision of the Head of the respective department/laboratory

6.2.1.2 Infrastructural measures

A range of infrastructural measures have been implemented to assure the quality of the laboratory service activities. These include:

- Badge or key controlled access
- Engineering control measures (e.g. HVAC, washing/decontamination facilities for personnel, resistant and easy to clean wall, floor and table surfaces, ...)
- Separation of laboratory work in critical areas (e.g. GLP, radioactivity, cell biological activities, molecular activities, contained use of microorganisms, cleaning/decontamination areas, ...)
- Biosafety cabinets and fume hoods for laboratory activities with microorganisms and chemical agents, respectively

The abovementioned measures significantly contribute to the assurance of safety and biosafety. Additionally, all laboratory facilities working with microbiological agents do meet the legal requirements in terms of biosafety as outlined in the European Directive 2009/41/EC and in the Commission Decision 2000/608/EC, which have been transposed at Regional level as a part of the regional environmental laws for classified installations. Currently, the faculty hosts BSL2 and BSL3 laboratory facilities. Activities involving microorganisms are approved by the Environment, Nature and Energy Department of the Flemish government and the Biosafety and Biotechnology Unit

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(SBB) - Scientific Institute of Public Health (biosafety permit reference AMV/03062008 SBB 219.2007/1437; renewed in 2013).

With the construction of the new Veterinary Research building (start beginning 2013) including L3 labs and A3 stables, a clear outline of the biosecurity guidelines will be followed whereby limited access rules have to be implemented.

6.2.1.3 Other internal quality control measures

Beside the personnel-related and infrastructural measures, several other measures are in place, which contribute to the quality of the laboratory services. A non-exclusive overview is provided below:

- Inclusion of internal control or reference samples
- Acceptance criteria for validation of test results
- Use of international standard protocols (e.g. OIE, WHO, CEN, CLSI)
- Purchase of quality-controlled commercial media and reagents
- A 'prevention policy' has been implemented by the Health and Safety Department of UGent (<http://www.ugent.be/nl/univgent/welzijnmilieu/veiligheid/arbeidsmiddelen/overzicht.htm>) for purchase of equipment. This policy minimizes risks associated with the use of equipment and supports purchase of well-qualified (CE-labeled).
- Department-specific handling and maintenance procedures for equipment
- Clearly defined protocols for waste removal and destruction
- Regular external maintenance and validation of high pressure vessels (autoclaves) and biosafety cabinets

6.2.2 External quality assurance systems

6.2.2.1 Accreditation

Two laboratories of the FVMG have been accredited up to now.

- The Laboratory of Pharmacology and Toxicology (part of the Department of Pharmacology, Toxicology and Biochemistry) is accredited by the Scientific Institute of Public Health (<https://www.wiv-isp.be/Pages/EN-Home.aspx?pflg=1033>). It carries out pharmacokinetic, bioavailability, residue and safety studies and bio-analysis of drugs for veterinary use. These studies imply testing of chemical products for protection of man, animals and environment, and are as such subject to the GLP guidelines ("Richtlijn van de Raad van de Europese Gemeenschappen nr 81/852/EEG van 28 september 1981 betreffende de onderlinge aanpassing van de wetgevingen der Lid-Staten inzake de analytische, toxico-farmacologische en klinische normen en voorschriften betreffende proeven op geneesmiddelen voor diergeneeskundig gebruik, gewijzigd bij de richtlijnen 87/20/EEG en 92/18/EEG"). The laboratory has been accredited since 2001 (<http://www.glp.be> - file number F03). Full compliance with the Good Laboratory Practice guidelines falls under the responsibility of an independent QA manager and the Head of the department. The facility is regularly inspected within a cycle of 2 years. Latest inspection was in February 2012.

- The Department of Veterinary Public Health and Food Safety has been BELAC accredited since 1997 (BELAC nr. 066-TEST). Accreditation was done according to the ISO norm ISO/IEC 17025 and applies to the screening of residues of antimicrobial substances (Laboratory of Hygiene and Technology) and to the confirmation of residues of veterinary medicinal substances and forbidden substances in products of animal origin (Laboratory of Chemical Analysis). Accreditation is re-approved every 5 years.

6.2.2.2 Reference laboratories

At the Department of Reproduction, Obstetrics and Herd Health, a reference laboratory for equine sperm analysis is installed since 1998. Its activities include semen analysis and (male) gamete preservation. Approval is acknowledged by the Ministry of Agriculture and the Federal Agency for Food Safety (“FAVV”). Renewal of this analysis is done every year.

The Department of Veterinary Public Health and Food Safety is involved in ring trials both on a national and international level for those analyses that fall within the scope of their accredited activities.

6.2.2.3 Other external quality control programmes

The Laboratory of Virology (Department of Virology, Parasitology and Immunology) participates in several European initiatives aiming at improving and harmonizing standard diagnostic procedures for influenza virus at a European level (www.esnip3.eu, www.flu-lab-net.eu).

The Department of Pharmacology, Toxicology and Biochemistry contributes to externally organized inter-laboratory tests. The majority of these tests is performed by the European Union Reference Laboratory for Antimicrobial Residues in Food (Laboratory of Fougères, Fougères cedex, France) and the Institute for Reference Materials and Measurements (IRMM, Geel, Belgium).

6.2.2.4 Audits by faculty, university and regulatory agencies

The Department of Veterinary Public Health and Food Safety and the Laboratory of Pharmacology and Toxicology are audited on a regular basis in view of their accreditation.

Recently, the Safety Committee of the FVMG initiated an internal audit programme aiming to generate an inventory of work practices and Standard Operating Procedures (SOPs) related to (bio)safety. Subsequently, the Safety Committee will strive to harmonize the (bio)safety policy throughout the FVMG.

Although not at predefined time intervals, regular audits occur by the Health and Safety department of UGent as well as by the regulatory bodies responsible for health, safety and environment.

6.3 Unit-specific features for quality assurance and biosafety of the Pathology and Morphology units

6.3.1 Services in the Pathology and Morphology units

Morphology and Pathology both are (a part of) different departments but are housed in the same building, share some facilities with each other and offer related services. This close association forms the basis for common quality assurance measures, especially related to biosafety.

The service in the Pathology unit includes necropsy and evaluation of biopsies from domestic animals, and only sporadically also from zoo and circus animals or wildlife. Materials are obtained from the faculty's clinics, from referring veterinarians as well as directly from pet and livestock owners.

During all 3 years of their Master's programme, students participate in the necropsies under supervision of lecturers and assisting staff. Students are familiarized with the necropsy procedures during introductory lessons and guidelines are made available through Minerva, the UGent's digital learning environment. Each individual necropsy is performed by students belonging to different master years whereby novice students can rely on the practical expertise of older year students. The latter are responsible for completing the necropsy report, but the final content of this report remains the full responsibility of the skilled pathologist who guided the necropsy. All necropsies of the day are discussed by the staff and students in group, and often also the referring clinicians are attending.

During the necropsy, samples are taken for further lab analysis. Furthermore, a standard checklist is followed to collect control samples, which are kept as formalin fixed samples (and frozen samples depending on the case) for several months (minimum 3 months, typically 1 year, upon request longer than 1 year) in order to have samples available in case a second opinion or additional research is requested. Samples processed for histology are kept indefinitely.

Histological evaluation of samples and biopsies is carried out by staff members only. Students are not involved in case-related evaluation of histological samples (except for case-reports in function of their master's dissertation), but are presented with representative slides of diagnostic relevance during their studies.

The Pathology unit is a registered residency training centre in the framework of the European College of Veterinary Pathologists with 2 certified Diplomates of the aforementioned college.

Services at the Department of Morphology include providing morphological advice as well as the identification and morphological analysis of animal remains, foreign objects of animal origin, fresh or processed tissues and meat products in forensic, customs, food hygiene or wildlife monitoring related investigations. Furthermore, animal skeletons and vascular corrosion casts are produced for educational institutes or expositions. The department also provides free visits, guided tours and educational workshops in its Museum of Morphology for educational institutes and socio-cultural organizations or events.

Students are not involved in any of these services. New staff members are supervised and trained by senior staff members. Morphological analysis reports are always verified by a member of the autonomous academic staff to whose expertise the subject of investigation belongs, before releasing the conclusions to the inquirer. Specimens are kept indefinitely in case they were processed for light or transmission electron microscopy. In other cases, specimens are returned to the inquirer or, in agreement with the inquirer, kept for a limited time and subsequently correctly disposed of.

6.3.2 Biosafety

Strict biosafety regulations are in place in the section room units both to assure that potential contaminants are contained within the facilities and to ensure student and employee welfare. As the practical dissection exercises of anatomy are typically performed on fresh cadavers rather than on fixed specimens, biosafety regulations as designed for the necropsy room are also applied in the dissection rooms of Morphology. As such, Pathology and Morphology share a common biosafety scheme for the entire section room complex (annex 6.1). These measures include restricted access to the facilities, the requirement to change and wear protective clothing (either single use disposables or dedicated clothing and footwear provided by the department), and a clear separation of flows within the facilities (personnel / cadavers and tissues / waste). Dependent on the risk associated with the activities and present materials, the section room complex is physically subdivided in different areas, each attributed 1 of 3 predefined biohazard levels (no risk, low risk, high risk). Each zone is clearly indicated by a colour code and specific biosafety measures associated with these biosafety levels are textually and graphically depicted at every entrance point (changing rooms). Rules of conduct on how to exit the section rooms are clearly displayed. The biosafety measures and rules have also been distributed to all members of staff, and can be consulted by the students through the digital learning environment Minerva. Furthermore, students are informed of these measures in two introductory lessons.

All members of staff are requested to actively address oneself to any staff member, student, technician or visitor who is breaching these regulations. In the necropsy room, each Monday a summary of all biosafety measures is shortly rehearsed for all people attending the necropsies.

Standard operation procedures for the handling of potentially contaminated materials, waste removal and subsequent cleaning and decontamination of instruments and infrastructure are available. The decontamination equipment for the necropsy room (foam cleaning) is yearly checked for accurate functioning.

The animal remains or potentially contaminated materials leave the facilities as high-risk materials, which are collected by a specialized destruction company. Exceptions are tissues that are collected for further histological, toxicological or microbiological evaluation, which are either formalin fixed or wrapped in a labelled and double sealed container before being sent to the appropriate laboratories. Similarly, preparation of

skeletons, plastination and similar conservation techniques are carried out within the facilities, and only the risk-free end-stage specimens are allowed to exit the complex.

6.4 Assessment of quality assurance systems for farm 'Biocentre Agri-Vet'

The mission of Biocentre Agri-Vet is to supply a well functioning (progressive and innovative) experimental farm, which concentrates on education, research on farm animals (ruminants, pigs and other animals) and service.

6.4.1 Assessment of quality assurance systems

All animals used in teaching and research are kept according to the Belgian legislation. For experimental animals, researchers send an application to the Ethical Committee of the FVMG. Additionally, all researchers involved have completed the correct and required courses (FELASA C).

All employees at Biocentre Agri-Vet meet Belgian legal requirements in terms of education and training. They also have completed required courses to work with experimental animals (FELASA A or FELASA B). The laboratory director of Biocentre Agri-Vet, who completed the correct and required courses (FELASA C), has final responsibility regarding animal welfare, guiding staff, researchers and students involved in animal experiments.

Biocentre Agri-Vet does meet legal requirements with focus being on animal welfare in the daily work, as well as on working conditions for the staff. Biocentre Agri-Vet follows all guidelines issued by UGent regarding the working environment, physical or psychosocial.

Recent investments at Biocentre Agri-Vet improved animal welfare of the own dairy cattle. A new cow-house for young animals has been built in 2011 to house dairy cattle from birth up till first calving. There are also places for dry milking cows up till calving. The calved milking cows are then housed in a milking cow-house built in 2001. The dairy cattle in these two cow-houses are used for teaching and non-radical research. Experimental animals, mostly male dairy cattle, used for radical research are bought. The researcher himself inspects the suppliers of animals, in order to make sure that high quality animals are used. These animals are housed in another stable (renovated in 2000) allowing to fix each individual animal. For experimental animals that need to be housed on straw one little stable of about 120m² animal area is available. A new goal of Biocentre Agri-Vet is renovation of another stable for experimental animals housed on straw to allow larger experiments with dairy cattle or experiments with other animals like sheep, goat, horses, ...

Every 3 months, a member of the Ethical Committee of the FVMG visits all animals under experiment at Biocentre Agri-Vet to ensure good quality animal conditions and welfare. Every 6 (cattle) or 3 (pigs) weeks, a senior veterinarian of the Department of Reproduction, Obstetrics and Herd Health of the FVMG visits the Biocentre Agri-Vet.

He contributes to the activities for good quality animal conditions and welfare, and advises on animal specific topics, such as fertility matters, vaccination schemes, ... Biocentre Agri-Vet participates for the own dairy cattle in the national surveys (CRV – corporation for cattle breeding).

6.4.2 Assessment of quality assurance parameters

6.4.2.1 Education

During the course of 'Ethology, Ethics and Animal welfare' (3rd bachelor), students of the FVMG learn how to take care of farm animals under supervision of the staff of Biocentre Agri-Vet.

Last year students of the track 'Ruminant Medicine' do a compulsory one-week training under supervision of the staff of Biocentre Agri-Vet to learn more about handling farm animals.

Additional small training projects are also provided at Biocentre Agri-Vet, such as cattle body condition scoring (BCS).

Assessment of education quality is based on a satisfactory analysis of the students who are required to rate the practical exercises and assigned tasks.

6.4.2.2 Research

Biocentre Agri-Vet contributes to Master's dissertations and doctoral research, as well as in other research with farm animals within the FVMG. It delivers some experimental farm animals when requested for research at the FVMG.

Assessment parameter for quality of the research is the number of Master's dissertations and doctoral (PhD) researchers doing their experiments at Biocentre Agri-Vet, the number of experiments of the FVMG in which Biocentre Agri-Vet collaborates, the number of experimental animals used or delivered by Biocentre Agri-Vet, as well as a satisfactory analysis by researchers using the facilities of Biocentre Agri-Vet.

6.4.2.3 Service

Biocentre Agri-Vet takes care of or supplies experimental animals to other experimental research units (Faculty of Bio-engineering, Faculty of Human Medicine, private companies, ...).

Assessment parameter for quality of the service is the number of experimental animals taken care of or supplied as well as a satisfactory analysis by involved experimental research units.

6.4.2.4 Assessment of quality assurance by accreditation from external quality assurance bodies

Agri-Vet participates in several external quality assurance bodies:

- IKM – Integral Quality control for Milk 204217 (6/5/'11 – 6/5/'14)
 - Animal health
 - Animal welfare
 - Milk production and hygiene
 - Environment

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- Autocontrol for Primary Plant Production SGS-SG-012-0207892576 (6/5/'11 – 5/5/'14),
- IKKB Standard for Primary Plant Production 847375976303 (6/5/'11 – 5/5/'14)
 - Grains, oil- and protein crops without after-harvest activities
 - Forage crops with after-harvest activities
- G037 – Autocontrol for Primary Animal Production BE ACS037-110590 (6/5/'11 – 5/5/'14)
 - Production of forage crops
 - Breeding/feeding of production animals (cattle)
 - Breeding/feeding of production animals (pigs)
 - Milk Production

6.4.2.5 Biosafety

When visiting the stables or cow-houses at Biocentre Agri-Vet, all visitors are required to pass the sanitary unit to change own clothing with farm specific clothing (overall & boots). All students and researchers are freely allowed to visit A1 stables; in contrast, access to A2 stables is only allowed for a limited number of persons working at the specific experiment.



7 CHAPTER 7 - ASSESSMENT OF CONTINUING EDUCATION

The Institute for Permanent Training (“Instituut voor Permanente Vorming”, IPV) of the FVMG organizes yearly several courses for continuing education. The IPV has a parttime Director (currently Prof. D. Maes) and 2 full time secretaries. The different courses are organized with help of coordinators, in most cases professors at the FVMG. Many of them are Diplomates of different European Colleges for Veterinary Specialization. There are coordinators for ruminants, horses, swine, small animals, veterinary public health and practice management. At least once per year, the Director, the secretaries, the Dean and the different coordinators have a meeting to discuss the functioning of the Institute for Permanent Training. A report is made that is subsequently approved by the Faculty Council of the FVMG.

Each coordinator is responsible for determining the specific program. This takes place each spring and in very close collaboration with practitioners, other veterinarians and representatives from veterinary organizations and institutes from outside the FVMG. For instance, the porcine programme is compiled together with the Board of the Belgian branch of the International Pig Veterinary Society. A similar procedure applies for the other courses. This guarantees that a balanced and up-to-date programme is composed that is of interest to the different veterinary groups.

An overview of the programme for the academic year 2010-2011 and the preceding year is given in Tables 7.1, 7.2 and 7.3.

Table 7.1: Courses organized by the IPV in the most recent year (2010-2011).

Activity	Participants	Hours of THEORY	Hours of PRACTICE
A) Long term postgraduate course “Vakdierenarts Paard (Specialized Equine Practitioner)” (1st year)	15	66	47
B) Long term postgraduate course “Vakdierenarts Gezelschapsdieren (Specialized Small Animal practitioner)” (1st year)	23	105	56
C) Separate courses on 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	-

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Bacteriological and parasitological examination by 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 ultra sound (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) Separate courses on small animals			
Respiration problems in dogs and cats	77	6	-
Dermatology: case study: diagnose 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 7.2: Courses organized by the establishment itself in preceding year (2009-2010).

Activity	Participants	Hours of THEORY	Hours of PRACTICE
Specialized Veterinary Surgeon: small animals (third year, lecture series 1) group A: third registration year group B: second registration year group C: first registration year Duration of the course: approximately 19 lecture days per academic year, for a period of three years The total number of hours of theoretical and practical courses slightly varies from year to year	10 (A) 2 (B) 10 (C)	108	9

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Separate courses small animals			
K-01 Sudden blindness in dogs and cats	17	3.5	0
K-02 Perianal gland fistulae	17	3.5	0
K-03 Dyspnoea in the dog	25	3.5	0
K-04 Seizures in the dog	12	3.5	0
K-05 The limping dog	22	3.5	0
K-07 Expovet: surgery	31	3.5	0
K-08 Perianal gland fistulae - veterinarians from Limburg	35	3.5	0
K-09 The use of feeding catheters in practice	8	1.5	2
K-10 Hyperthyroidism in the cat from A to Z	17	3.5	0
K-14 Stomatology: general course	11	14	0
K-15 Two new drugs in practice: Alizin and Suprelorin	19	3.5	0
K-16 The use of drains in practice	9	1.5	2
K-17 Surgery in exotic animal species	26	7.5	0
K-18 Vaginal cytology and sperm analysis in the dog and the cat	/	/	/
K-19 Haematology - Cytology	7	1	2.5
Separate courses on large animals			
GV-01 Results of practice-oriented field studies of "Veepeiler- varken"	41	3	0
GV-02 Update of PRRSV infection	45	3	0
GV-03 Pig farms with high (re)productive performance: farm management practices and economic aspects	56	3	0
GV-04 National and international perspectives of pig production	88	3	0
GV-05: The use of antibiotics in pig production: update and perspectives	88	3	0
GV-06: Strategies to improve health and productivity in recently weaned pigs	39	3	0
GP-01 Regional anaesthesia and joint punctures of the distal limb	9	0	3
GP-02 Practical approach to diastemata and periodontitis in horse's teeth	6	0	3
GP-03 What if a horse does not walk as it should: is it the neck or the back?	47	3	0
GP-04 Reproduction and obstetrics in the horse: cases	33	5	0
GP-05 Pre-purchase examination in the horse	65	7	0
GP-06 Regional anaesthesia and joint punctures of the proximal limb	7	0	3
GP-07 Skin diseases of the distal limbs in the horse	50	3	0
GR-01 Practical tricks and tips for the management of transition cows	63	3	0
GR-02 Interesting medical facts about small camelidae	21	3.5	0
GR-03 The use of echography in the medical examination of the thorax and abdomen of cattle	/	/	/
GR-04 Is there already more know about ...?	75	3	0
GR-05 Exploration and monitoring of the udder health status on modern dairy farms	56	3	0
GR-06 A glimpse at some evolutionary developments in the genetic selection of cattle	39	3	0
GR-07 Cattle: case reports	12	3	0
GR-08 Emergency slaughter: what and how?	46	3	0
GR-09 EXPOVET: control of IBR and BVD today	56	3	3
GR-10 Practical approach to dairy farms with udder health problems	6	0	1.5
GR-11 Screening of top dairy farms	4	1.5	1.5
GR-12 Screening of top beef cattle farms	7	1.5	0
GR-13 SQT, SMA, ... in Belgian White Blue Cattle	54	3	0

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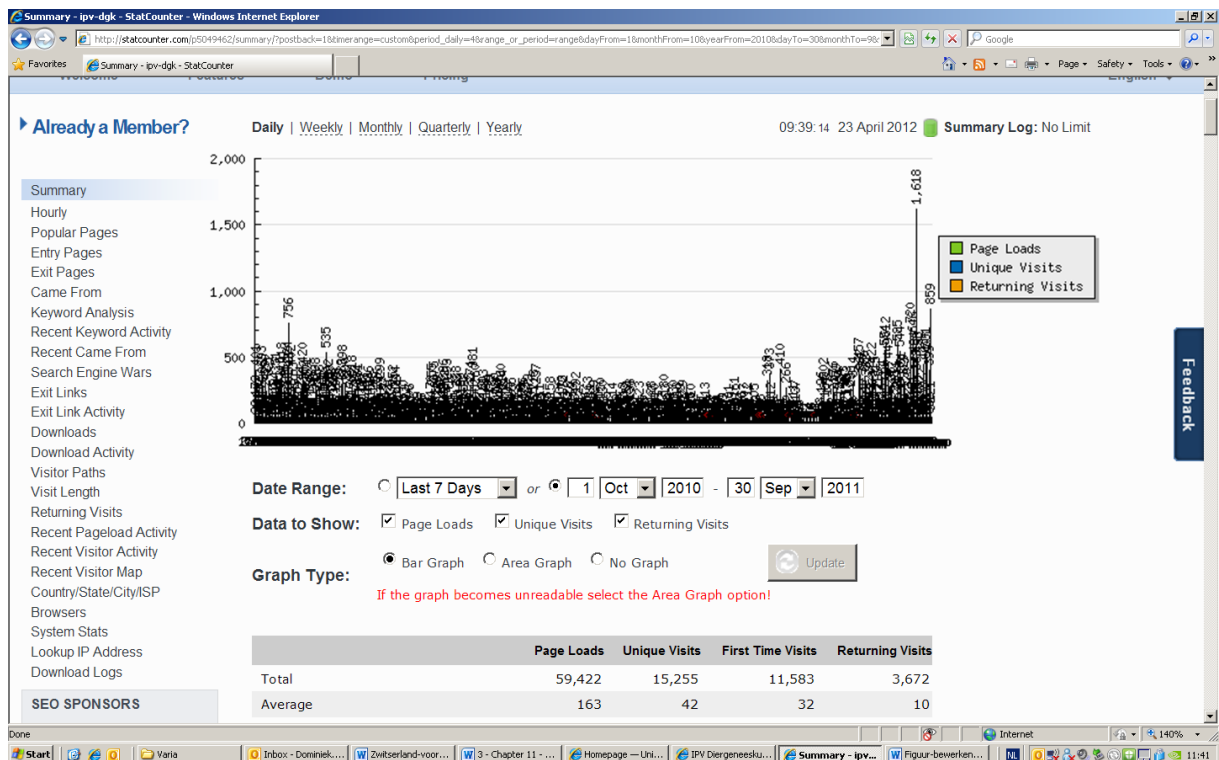
GR-14 Fertility on cattle farms: interpretation and improvement	69	3	2.5
GR-15 The use of echography in cattle reproduction	5	1	/
GR-16 Herd health management	/	/	
F-01 Topics on parasitic zoonosis	57	3	0
F-02 The use of water in the food chain	55	3	0
F-03 Guidelines in primary animal production: implementation of good manufacturing practices and the role of the veterinarian	72	3	0
F-04 Topics in bacterial zoonoses	82	3	0
F-05 Influenza as zoonosis	92	3	0
F-06 Process control	105	3	0
F-07 Decision making in poultry inspection, an interactive discussion based on statistics	42	3	0
F-08 Legislation on food safety: why and how?	70	3	0
Continuing education internship	Variable	Variable	14
Permanent education residency	Variable	Variable	24
Permanent education in scientific research	/	/	14

Table 7.3: Courses organized at the establishment by outside bodies.

Activity	Participants	Hours of THEORY	Hours of PRACTICE
International Pig Veterinary Society-Belgian Branch (IPVS-BB)	50	3 times/year	Lectures + workshop
Flemish Bovine Practitioners ("Vlaamse Rundvee Practici")	80	once/year	Lectures
Belgian Equine Practitioners (BEPS)	240	1 time /year	Lectures
World Veterinary Poultry Association (WVPA)	70	4 times / year	Half a day lectures + discussion of cases
Physiotherapy in domestic animals (IRSK-wings)	20 / year	2 years of 20 sessions of ½ day each (20)	40
Basic module	15 / year	6 days	
Module horse	10 / year	10 days	
Module dog	10 / year	13 days	

The entire programme is printed and mailed by post to the veterinarians during the summer. The programme is also announced by e-mail and can be found on the website of the [Institute for Permanent Training](#). The website is an important instrument in the communication between the Institute for Permanent Training and the veterinarians. Statistics show that the website of the Institute for Permanent Training is frequently visited. During the entire academic year 2010-2011, the website was visited on average 42 times per day (Figure 7.1). A reminder mail is sent out 2-3 weeks prior to each activity.

Figure 7.1: Number of daily visits on the IPV-website during the academic year 2010-2011.



The coordinators are responsible for the scientific supervision of the courses: invitation of the speakers, introduction of speakers, and the guidance of the discussion. The speakers submit their presentation to the secretary before each course. The printouts of the presentations are used as proceedings.

After each course, an evaluation form is provided that can be filled in by the attendees (annex 7.1: example of completed evaluation form). Apart from an evaluation of the course, also suggestions for further topics can be indicated. These comments are taken into account by the coordinators when composing the programme for the next academic year. An overall assessment of the different courses for the academic year 2010-2011 is given in Table 7.4.

Table 7.4: Overall evaluation (score 0-5) of IPV courses during 2010-2011 (0=insufficient; 5= excellent).

Title	Content	Applicability in practice	Average
Pig-01: Expovet: resultaten praktijkgerichte onderzoeksprojecten	3.7	3.8	3.8
Pig-02: groepshuisvesting van zeugen: voor- en nadelen en hoe ver staan we?	3.7	3.8	3.8
			0.0
Horse-02: Expovet: verloskunde bij het paard	4.3	4.4	4.4
Horse-03: wondheling en wondbehandeling bij het paard: de nieuwste ontwikkelingen	4.3	4.1	4.2
Horse-04: CEM en EVA: is er een vuiltje aan de lucht?	3.5	3.6	3.6
Horse-05: tandextracties bij het rechtstaande paard (practicum)	4.9	4.6	4.8
Horse-06: "Kijk eens diep in mijn ogen..." Oftalmologie bij het paard	3.5	2.5	3.0
Cattle-01: praktische 'tricks and tips' in de rundveepraktijk	4.1	4.1	4.1
Cattle-02: de microscoop: ook in de rundveepraktijk een handig middel om tot een exacte diagnose te komen	4.2	4.3	4.3
Cattle-04: melken met een robot: wat je er als dierenarts van moet weten	4	3.9	4.0
Cattle-05: ethiek en dierenwelzijn in de rundveesector	4.5	3.8	4.2
Cattle-06: Expovet: het antibioticumgebruik in de rundveesector	3.2	2.8	3.0
Cattle-08: atypische ziektebeelden bij BVD- infecties	4	3.8	3.9
Cattle-09: nieuwigheden in de voeding van melkkoeien	3.8	3.6	3.7
Cattle-13: de aanpak van een melkveebedrijf met uiergezondheidsproblemen	4.4	4.4	4.4
Cattle-14: water: een vaak vergeten maar belangrijk onderdeel van het rantsoen	3.6	3.2	3.4
Cattle-15: het gebruik van de echografie in de voortplanting bij het rund	4.1	4.3	4.2
Cattle-17: interessante nieuwtjes gehoord op het wereld buiatrie congres in Chili	4.1	3.6	3.9
FS-01: dierenwelzijn en hygiëne bij leg- en vleeskippen	3.9	3.8	3.9
FS-02: expovet: Q- FSever als zoönose	3.6	3.8	3.7
FS-03: gebruik van water in de voedselproductie	2.8	2.3	2.6
FS-04: keuringsbeslissingen bij varkens, een interactieve discussie op basis van casuïstieken	3.7	3.4	3.6
FS-05: staalname voor BSE onderzoek, theorie en praktijk	4	4	4
FS-06: antibioticumresistentie in de veehouderij, een gevaar voor de volksgezondheid	3.4	3.1	3.3
FS-07: Eetwaren technologie: conserveringstechnieken	4.1	3.7	3.9
FS-08: opleiding verdachte monstername slachthuizen FSAVV - IPV	3.7	3.5	3.6
FS-09: extra opleiding in samenwerking met het FSAVV: TSE's en neuropathologieën bij herkauwers	4	3.6	3.8
FSA-01: auditing dag 1: de basiswetgeving: de hygiëne en controlebesluiten over alle levensmiddelen	3.7	3.5	3.6
FSA-02: auditing dag 2: commerciële kwaliteitssystemen en de controle op dierlijke producten	3.9	3.9	3.9
FSA-03: auditing in de praktijk	4.5	4.3	4.4
FSA-04: auditing in de praktijk geïllustreerd aan de hand van een reeks gevallen	4.2	4.2	4.2
Average Pigs	3.70	3.80	3.75
Average Horse	4.10	3.84	3.97

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Average Cattle	4.00	3.80	3.90
Average Veterinary Public Health	3.81	3.62	3.72
Global Average	3.92	3.73	3.70

FS: food safety and veterinary public health; FSA food safety auditing

Some general negative comments:

Pig-01: do not plan courses on Saturday anymore

Pig-02: more cake should be provided

Horse-06: very little interaction with the audience, difficult to keep attention

Cattle-04: the notes are too compact

FSA-01: use the microphone also during the question and discussion session

FSA-04: rather passive, not enthusiastic, few interaction with the audience

General positive comments on the courses:

Pig-02: excellent discussion session

Horse-05: very pleasant course, interesting tips

Cattle-13: the most practical course I have ever attended at IPV

FS-07: very interesting, the speed of the lectures was very high

FSA-04: all speakers are experts in their field

The participants of each module are granted with a certificate of attendance handed out by the IPV ([annex 5.18](#)). The attendance of veterinarians to such permanent education courses is compulsory for veterinarians who want to obtain the "Good Veterinary Practice" certificate.

Since January 1st 2013, the Veterinary Chamber has made Continuing professional development obligatory for all practitioners.



8 CHAPTER 8 - ASSESSMENT OF RESEARCH

8.1 Factual information

Teaching and research are the main activities of the FVMG. Where applicable, clinical and diagnostic services are also offered. These are directly linked and closely interwoven with study and research programmes at the FVMG.

Assessment of research is done both at university and at faculty level.

8.2 Assessment of research at university level

UGent aims to be an internationally recognized research institute and therefore a clearly defined research policy and a system for quality assurance, are needed.

An important recent development in the field of research policy is the strive for excellence by focusing on niche areas and prioritizing certain fields.

In the context of this ambition, the Board of Governors of UGent approved in 2009 a strategic research objective to steer the university's growth, and to prioritise quality objectives in the following growth path

(<http://www.ugent.be/en/research/organisation>).

8.2.1 Research policy plan of UGent

The research policy plan of UGent aims at excellence in research. However, it also wants to respect a number of balances in this pursuit because a good equilibrium guarantees the continuity of dynamic, ever innovative research. This pursuit of excellence and the right balance is meant to create a suitable research environment. The pursuit of excellence, respect of balances and the general research environment are determined by a number of values: academic freedom, ambition, involvement, integrity and openness.

The research policy plan formulates 7 strategic goals, which form the basis for an annual operational action plan:

- UGent must maximize its research capacity
- UGent must increase its research effectiveness from an academic, societal and economic point of view
- UGent must improve its research efficiency
- UGent must ensure an attractive HR management policy for researchers
- The research structures in and around UGent must support research performance
- An effective quality assurance system in research must serve to position, motivate and, if necessary, sanction
- UGent must use effective tools for research management

The full text of the Research Policy Plan of Ghent University 2012-2016 is presented in annex 8.1.

8.2.2 Publication policy of UGent

UGent invests in and for research excellence through:

- incentives to publish the results of scientific research in excellent scientific media (internal allocation model, doctorate (PhD) bonus, regular bibliometrical evaluations)
- guidelines for the UGent Academic Bibliography (mandatory registration in Biblio, mandatory upload as open access publication in UGent Repository)

The full text of the publication policy of UGent is presented in annex 8.2.

8.2.3 Research support at UGent

The Research Coordination Office of UGent has an important role in the dissemination of information on funding, procedures and regulations. Its staff members follow up on national and European policy initiatives, and actively engage in policy research. All contracts for research projects with external funds or with external partners are dealt with by the Department of Research Affairs of UGent. Every project must have a promoter who belongs to the academic staff from UGent and will as such be coordinated by that person. On behalf of that person, staff members from the Department of Research Affairs provide assistance in terms of administration, negotiation, drawing up budget plans, valorisation, etc.

8.2.4 Research quality control at UGent

At regular instances, research at UGent is the subject of evaluation. In 2008-2009 a bibliometric benchmarking analysis of UGent (period 1997-2007) was performed by the Center for Science and Technology Studies of Leiden University, the Netherlands. These results of this study and methods for improvement have been discussed at the faculty.

This study has been repeated in 2012 (period 2002-2011, see [bibliometric study](#)) and the results will be discussed and compared with results of the previous study by the Faculty Research Committee and the Faculty Council.

8.2.5 Integrity of scientific research

Scientists exert authority but they deserve this recognition only if their research is performed in a transparent and sound way. The trust that students, colleagues, financial backers, and society place in research is not self-evident. This scientific integrity must be protected, but judging whether the boundaries of integrity have been violated is not an easy task. If suspicions are raised that a UGent researcher breaches/has breached the integrity of his/her research, the complaint is dealt with by the Commission for Scientific Integrity. This Commission deals with all reports on suspected violations of scientific integrity according to a regulated procedure, included in annex 8.3.

8.3 Assessment of research at faculty level

8.3.1 Research plan of the FVMG

Since 2010, each faculty of UGent is expected to have a global research plan. At the FVMG, the drawing up of this plan is drafted by its Faculty Research Committee and thereafter discussed and finalized by the Faculty Council.

The research plan of the FVMG for the period 2011-2015 is presented in annex 8.4. It focuses on:

- actions stimulating research leading to a doctoral degree
- actions stimulating mobility of doctoral (PhD) researchers and post-doctoral researchers
- determination of research areas to be stimulated at the FVMG through attracting of research professors (permanent staff members specially dedicated to research but provided by UGent).

Research areas for which a research professor has already been hired in the past are: “veterinary immunology”, “molecular pathogenesis and pathology of bacterial infections in animals”, “gene therapy in veterinary medicine”, “aquatic veterinary medicine”, “comparative physiology” and “molecular parasitology”.

Research areas for which the faculty wants to hire a research professor in the period 2012-2015 are “equine reproduction and obstetrics”, “functional imaging”, “comparative veterinary pharmacology” and “veterinary food control and sanitation” (see appendix 8.5)

8.3.2 Assessment of research by the Faculty Research Committee of the FVMG

Research at the FVMG has now for more than a decade been coordinated by the Faculty Research Committee. The main aims are to stimulate outstanding research, to identify future research domains and needs, and to act as an advisory board with the application of grants and to implement the guidelines of the Doctoral Schools at faculty level. The committee not only acts as a supporting body, but attempts to have a proactive role towards the Research Council of UGent as well as to Belgian and European research authorities. The Faculty Research Committee also acts as an advisory board towards the Faculty Council for all matters related to research.

8.3.2.1 Organization

Each department is represented in the Faculty Research Committee by one autonomous academic staff member. The committee is completed by a representative of the academic assistant staff and, the administrative and technical staff, the faculty representatives of the Special Research Fund of Ghent University (BOF) and the Flemish Fund for Scientific Research (FWO), as well as by the Dean. A Chairperson and Secretary are chosen among the members to prepare the agenda, preside the meetings, and to report the committee proposals to the Faculty Council.

8.3.2.2 Working and financing

The committee usually has 4 meetings a year, but has the possibility to obtain advice from its members by email as well. The agenda of the meeting is prepared by the Chair, and the dates are scheduled by the Secretary. After each meeting, the proposals and action points are written down in a report by the Secretary, and presented by the chair on the next meeting of the Faculty Council.

The committee is financed directly by UGent, and has an annual budget of about 140.000 to 150.000 Euro. For each initiative described below, the committee foresees a certain budget, as well as specific regulations to fulfill. The content and conditions within these regulations can only be changed or adapted after general agreement of the members and additional approval by the Faculty Council. The regulations are announced to the faculty community by the representative of each department and are posted on the faculty's intranet as well.

8.3.2.3 Initiatives at graduate level

The priority of the Faculty Research Committee focuses on all actions that stimulate outstanding research, preferably leading to a doctoral degree, at the faculty. Over the years, several initiatives have been taken, resulting in an increasing number of doctorates (PhDs) each year.

- Information sessions for veterinary students

To stimulate veterinary students to undertake a doctoral project, the Faculty Research Committee organizes several information sessions to inform the students. Members of the committee organize special information evenings where the conditions, possibilities and perspectives of research are communicated. Special attention is paid to outstanding students in their final year. Those students are invited by the Dean, the Chair and Secretary of the committee to a special session. Information is given about the different possibilities to apply for a doctoral (PhD) grant. They also receive a list of possible Doctoral dissertation projects (provided by academic staff members of the FVMG) and the promoters. Students who are interested in a subject are advised to contact the respective promoter.

- Guidance of outstanding veterinary students

Students with excellent track record and/or students with a very strong motivation (designated with the broad term 'top students') are given the opportunity, on a voluntary basis, to experience different aspects of veterinary research at an early stage of their study career. The committee responsible for the training of these 'top students' consists mainly of the 'research professors of the FVMG (permanent staff members specially dedicated to research), the Dean and the Chairpersons of the Faculty Research Committee and the Study Programme Committee. More information about this training is provided below (paragraph 8.4 'Interaction between research and teaching'). Since 2012 the project of 'top students' is integrated into the 'Honours programmes' of the UGent (joint projects with the Faculty of Medicine and the Faculty of Pharmaceutical Sciences).

- Stimulation of doctoral research

This item is the main focus of the Faculty Research Committee and a large part of the budget is spent on the following initiatives:

- Doctoral (PhD) researchers, veterinarians as well as non-veterinarians, applying for a grant of the Flemish Institute for the promotion of Scientific Technological Research in industry (IWT) and whose promoter is an academic staff member of the FVMG, can apply for a 3-month grant (October to December) to prepare themselves for the defense of their grant, that usually takes place in December.
- Doctoral (PhD) researchers, veterinarians as well as non-veterinarians, who applied for a grant of the Flemish Institute for the Promotion of Scientific Technological Research in Industry (IWT) and have been classified as high-quality doctoral (PhD) applications (IWT score B) but were however unsuccessful due to the limited numbers of grants available, may obtain a one year grant in order to prepare themselves for a second application (overall 3 grants are awarded each year). Selection is based on the scores that the candidates obtained after defending their project proposal at the Flemish Institute for the Promotion of Scientific technological Research in Industry.
- Doctoral (PhD) researchers with a doctoral project for at least 3 but less than 4 years can apply for a grant that allows them to finish their Doctoral dissertation in the normal period of 4 years.
- Veterinarians who finished a residency programme at the FVMG, can apply for a grant allowing them to finish a Doctoral dissertation.

- Stimulation of mobility of PhD students

Each doctoral (PhD) researcher can apply once during his/her doctoral (PhD) studies for financial support from the Faculty Research Committee, with a maximum of 1,000 Euro, to attend workshops and congresses.

8.3.2.4 Initiatives at post-doctoral level

The Faculty Research Committee does not have the budget to finance grants for postdoctoral (PhD) researchers. However, as the number of doctoral (PhD) researchers increased over the years, the FVMG expects an increasing number of applicants for the limited number of postdoctoral grants available at UGent and at Flemish and EU level. Therefore, 2 initiatives have been established to support this evolution.

- Guidance of post-doc applicants

The Faculty Research Committee gives advice to applicants for a postdoctoral grant. In particular the faculty representatives of the Special Research Fund of UGent (BOF) and the Flemish Fund for Scientific Research (FWO) are accessible for help and guidance.

- Grants for study and training periods abroad

In order to broaden the knowledge and to introduce new technology at the faculty of veterinary medicine, the Faculty Research Committee awards grants to postdoctoral (PhD) researchers for a short term (14 to 30 days) or long-term (3 to 6 months) training period at a foreign university or research institute.

8.4 Interaction between research and teaching

8.4.1 Opportunities for student training

8.4.1.1 Master's dissertation (= study thesis)

8.4.1.1.1 Introduction

For their end-of-study Master's dissertation all students are trained in collecting and critically evaluating scientific data, writing a literature review report, how to define, plan and perform a research project (dealing with either a basic, applied or clinical veterinary topic), and present the results both in written reports and by an oral public presentation of their work.

Total time allotted to this project amounts to 820 hours per student, equivalent to 26 credits. Together with the reports on the veterinary practice visits (amounting to 80 hours, equivalent to 4 ECTS credits), this research training is formatted into a two-tier study project which, following the implementation of the Bologna Decree, comprises a total amount of 30 ECTS credits, covering all aspects of basic, applied and clinical research.

Except for a few cases when an external mentor or research center is involved, all these activities are performed in the research laboratories and clinics of the FVMG and under the supervision of 2 academic faculty staff members.

For the choice of the literature review and research project subjects, including the clinical case studies, the students can either make a selection from a long list of topics presented by the various departments, or propose original subjects.

The modalities, factual information, practical organization and assessment procedure of this end-of-the-study dissertation are described below.

8.4.1.1.2 Structure of the Master's Dissertation

The first part of the dissertation is assigned in the 2nd Master, comprises 14 ECTS credits, and consists of 2 weeks of clinical extra mural study at private veterinary practices (both a companion animal and large animal practice) and a literature review.

- The clinical extra mural training comprises 2 weeks of 40 hours each, and is organized under the supervision of 2 faculty clinical supervisors, the Faculty Student Administration Office, and the responsible practice veterinarian. In their evaluation reports of their study visits to the veterinary practices, the students are required to give proof of their *scientific and clinical competences* (i.c. description of the clinical cases in a logbook, writing of two short case reports), *critical analyzing capability* (e.g. concerning the practical organization and management of the 2 practices visited) and *synthesizing reflecting competence* (e.g. evaluation of personal practical skills, knowledge and attitudes when dealing with patients and their owners).
- The literature review (confined to a concise and scientifically formatted report of 10 to 30 pages) covers any topic of veterinary relevancy. In principle, it is supervised by 2 mentors belonging to the academic teaching staff of the preclinical departments of the FVMG, although in few cases also mentors of clinical departments of the FVMG or other faculties, universities, research centers or veterinary clinics may be involved. In all cases, however, at least one of the mentors is either a senior doctoral (PhD) researcher or a full professor at the FVMG.

- While working on the literature review, the students have the opportunity to perform technical project work in the laboratories or clinics of their mentors, in order to become familiar with the research techniques applicable to the pertaining research topic.
- The evaluation of the first part of the dissertation is based on the evaluation of the visit reports and the printed literature review.
 - The visit reports are evaluated by a faculty commissioner and by the clinical supervisors who also include the assessment reports of the responsible practice veterinarians in their evaluation.
 - The literature review is evaluated by the 2 mentors and a referee (i.e. the faculty commissioner mentioned above).
 - The technical project work is performed on a free basis and is not enclosed in the evaluation score.
 - The global mark is based on the scores of the visit report (4/14= 29%) and the literature review (10/14=71%).
 - Outcome required: a minimal score of 50% (10/20) is required for both the visit reports and the literature review. Failure for either or both parts results automatically in the obligation to resubmit improved versions of the visit reports or/and the literature review.

The second part of the dissertation is assigned in the 3rd Master, comprises 16 ECTS credits, is performed under the supervision of 2 faculty mentors, and results in a written report that must be submitted but also orally defended in a public session. Students may choose between 2 options:

- A scientific research project in any of the departments of the FVMG, possibly in elaboration of the literature review made in the first part of the dissertation. The research topics may include a prevalence study, the elaboration of a research model, the application of a number of research techniques, or an in-depth study including pertaining laboratory investigation and/or retrospective or follow-up study of a clinical case. The topic of this project is usually related to the option the student has chosen in his or her final year. It includes a substantial amount of hands-on experimental work. These research projects are mandatory for students of the track 'Research', but are also available and recommended to all other students of the species-specific options. The volume and format of the research reports are not strictly defined, but the number of 100 pages should not be exceeded.
- Two clinical cases (8 credits each), in which a particular clinical case is described in detail and discussed in view of literature data, giving proof of a critical scientific and professional reflection. Each report should be 20-30 pages long.

The evaluation of the second part of the dissertation is based on the evaluation of the written reports and a public defense.

- The written reports are evaluated by the 2 mentors and, in the case of research projects, also by an additional referee (faculty commissioner).
- The public defense (10 minutes presentation and 10 minutes discussion of the project) is scheduled in the last week of the final examination period and is assessed by a jury of 5 academic staff members of the FVMG.
- The final mark is based on the evaluation of the written report (70%) and the oral defense (30%)

- Outcome required: a minimal score of 50% (10/20) is required for the second part of the dissertation.
- Valuable dissertations (scores 50% and 70%) are published electronically on the university's platform and the internet, respectively.
- The best dissertation projects are awarded with special prizes and grants offered by the FVMG and a number of professional organizations and private companies.

8.4.1.1.3 Practical organization

The practical organization of the Master Dissertation involves several actors and actions:

- Mentors: Every year all members of the academic staff of the FVMG are requested to propose a number of dissertation titles (literature reviews, research projects and clinical cases - the latter only for the clinical departments) for which they are prepared to act as mentor. The number of topics is proportional to the number of academic staff of each department. Students can choose from this list. However, students can also propose a title of their own choice that may or may not involve a mentor from outside the FVMG.
- Referees: The number of referees (faculty commissioners) is determined each year on the basis of the number of academic staff of each department and the number of mentors provided by each department in this particular academic year.
- Jury members: The jury members for the public defense of the dissertations (5 for each jury) are recruited from the academic faculty staff on the basis of their expertise in the topics of the various sessions (basic research, companion animal medicine, equine medicine, ruminant medicine, porcine medicine, general veterinary topics, animal welfare) in which the students present and defend their dissertation work.
- Guidelines: All procedures and instructions concerning the dissertation, as defined in the ECTS files, are laid down in a manual, written by the dissertation committee of the faculty. This manual includes detailed instructions on how to write a literature review, research project and clinical case, and elaborates on the layout of the reports.

8.4.1.1.4 Total study time

The total study time students spend in the dissertation amounts to 900 hours, namely

Visits to the veterinary practices: 2 weeks of 40 hours	80 h
Literature review:	
- information and instruction lectures	10 h
- monitoring, evaluation and feed-back by the mentors	80 h
- project work	250 h
- technical project work: voluntarily	-
Research project / clinical cases:	
- monitoring, evaluation and feed-back by the mentors	80 h
- project work	400 h

8.4.1.1.5 Workflow of the dissertation procedure

Monitoring and optimizing the procedure and workflow of the masters' dissertation involves a large number of staff members and committees. Below a sequential overview is provided of the steps involved in assisting the students with their master's dissertation:

- Mentors: discussion of the planning, structure of the project, evaluation and corrections of preliminary student reports and drafts; feedback (at least 3 personal meetings between the senior mentor and each student are mandatory, as defined in the dissertation manual)
- Dissertation secretariat: follow-up of project programme (planning of information sessions, submission of reports and evaluation forms, ...), plagiarism control on instigation of mentors and/or referees by means of Ephorus software
- Dissertation coordinator (Prof. P. Simoens): constant monitoring of the project programme; problem solving, reporting to the Master's Dissertation Committee and Faculty Council
- Clinical supervisors (Prof. S. Daminet & Prof. P. Deprez): organization of the visits to veterinary practices
- Master's Dissertation Committee (20 members, including members of each department, of the Faculty Student Administration and students): yearly meetings for discussing the thesis project, suggesting adaptations and refinement
- Study Programme Committee: discussion and amending of the Master's Dissertation Committee proposals, submission of the approved proposals to the Faculty Council, assessment /quality control of the thesis project
- Faculty Council: discussion, amending and definitive approval of the proposals of the Master's Dissertation Committee, approval of the thesis subjects allotted to each students, approval of the lists of mentors, reviewers and jury members
- Faculty Student administration: supervision of student lists, insurance documents & report files of clinical visits
- Faculty Ombudsperson: advising in cases of personal problems
- Central University Department of Educational Affairs (DOWA): Thesis project evaluation 2010
- Central University Technology Transfer Department: definitions of confidentiality, disclaimers, author's rights

8.4.1.2 Top students

Students with an excellent track record and/or students with a very strong motivation (designated with the broad term 'top students') are given the opportunity at the end of the bachelor period, on a voluntary basis, to experience different aspects of veterinary research at an early stage of their study career. The general idea is to allow students with a very strong motivation and/or capacities to go beyond the main study programme to come into contact with and to deepen their knowledge about aspects of veterinary science that are of particular interest to them.

The 2nd and 3rd year bachelor students with an excellent study track record (average \geq 750/1,000 points) receive the opportunity, on a voluntary basis, to participate in

hands-on training weeks that are organized throughout the summer period at the different departments of the FVMG. Training weeks allow the students to come into contact with and get a taste of clinical and/or fundamental research at an early stage in their curriculum. Secondly, highly motivated 3rd year bachelor students, independent of their study track record, also receive the opportunity to participate in these summer training weeks, all on a voluntary basis.

Over the past 3 years (since initiation), the summer training weeks have been very successful, annually reaching \pm 50 students, of which \pm 20 students with excellent track records and \pm 30 other students.

In addition, very promising 3rd year bachelor students and 1st year master students are stimulated and guided to apply for participation at prestigious international veterinary summer schools, mainly focusing on veterinary research. Over the past 2 years (since initiation), this has resulted in participation of students at the Cornell Veterinary Leadership Summer School and the Cambridge Fundamentals in Veterinary Science Summer School.

In addition, international experts in different aspects of veterinary research are attracted or requested to give specific lectures for students on their particular field of expertise in veterinary research, and opportunities are given to the students to discuss with these international experts face-to-face. Over the past 2 years (since initiation), 5 international experts have given lectures/lecture series in this context.

8.4.1.3 Doctoral (PhD) researchers (= PhD students)

During their doctoral (PhD) studies at the FVMG, students are intensively trained in several aspects of veterinary research, including literature searches, design of hypotheses, experimental setup, statistical analysis, data interpretation, and discussion. In addition, students are stimulated to translate their research into publications and to aim for scientific excellence, as the guidelines of the FVMG require doctoral (PhD) researchers to obtain a minimum of 2 first author scientific papers in the top 50% (based on impact factor) of their particular discipline or 3 first author papers if these are not published in the top 50% of their particular discipline. The Doctoral dissertation supervisor(s) play(s) a major role in training at doctoral (PhD) level.

Furthermore, the Faculty Research Committee provides a reimbursement (up to 1,000€) for every doctoral (PhD) researcher (one time over the duration of his/her Doctoral dissertation) who actively participates at an international meeting in his/her scientific discipline, thereby strongly stimulating doctoral (PhD) researchers to perform oral and poster presentations and to present their results at international meetings. In addition, doctoral (PhD) researchers automatically enroll in the Doctoral School for Life Sciences at UGent, providing them with the opportunity to follow relevant doctoral (PhD)-level courses free of charge. Through the Doctoral School, students are further stimulated to translate their research into scientific publications and presentations, to follow doctoral (PhD)-level courses that are relevant to their field, to attend scientific lectures and meetings, and to acquire transferable skills, as students who meet with minimum guidelines for these different aspects are rewarded by the Doctoral School with an official certificate of successful completion of their doctoral training.

8.4.2 Conveyance of research methods and results into basic veterinary training

Basic veterinary training involves 3 years of pre- and paraclinical education in the bachelor years and 3 years of clinical education in the Master years. In order to give the students the most updated education it is very important to implement research methods and results. In addition, veterinary students may follow during their last year special courses on research methodology and equipment in order to improve their starting competency, when they want to do further studies (Doctoral dissertation) or want to start in the pharmaceutical or diagnostic industry.

Involvement in research, relevant to the respective field of expertise, is a requirement for all full time tenured academic staff employed at the FVMG. Research efforts focus on public health issues, animal diseases and animal models for human diseases.

Research activities allow the academic staff conveying first hand scientific knowledge to veterinary students at 2 levels:

- Results obtained from basic research are translated and integrated in course lectures. Indeed, understanding basic principles and mechanisms of action (for example host-pathogen interactions of infectious diseases) provide insights needed to build science-based problem solving capacities of the students. Physiological/Immunological processes, pathogenesis of infectious (prion, viral, bacterial, fungal, parasitic) and non-infectious diseases in domestic animals are being studied in different departments of the FVMG.

- Results obtained from applied research are integrated both in course lectures, practical exercises and clinical activities. Indeed, several research groups at the FVMG focus on developing innovative solutions, which are implemented during the clinical training of the students. These not only include studies on production animals, but also studies on companion animals for which it is, generally speaking, more difficult to find funding. Companion animals are at present being subjected to more in-depth therapy than before, and can as such also represent a model for human therapies since some canine/feline diseases are very similar to human diseases (kidney disease, diabetes, tumors...). Research on 'minor species' (birds, small mammals, reptiles, amphibians, ornamental fish, ...) is also carried out and highly needed to improve treatment and control protocols. Production animals are often treated as a group, and in these cases, research on nutrition and housing, disease prevention, epidemiology, antibiotic treatment and risk for development of multi-resistant bacteria are major topics for veterinary research. New prevention measures (vaccination, biosafety), new therapies and new technologies are being developed and optimized for use in veterinary medicine.

8.5 Opportunities for staff promotion in relation to research

Research plays an important role in decision making of the academic committees to assess applicants for promotions or new positions. The Dean's office provides summarizing tables for the assessment of the candidates. Methods common to the

Academic Bibliography of UGent are followed in the classification of the publications, such as peer-reviewed articles, book chapters, Doctoral dissertations, ... Primary bibliometric data in the summarizing tables are i) the number of A1 publications, simply summed but also weighted by journal impact factor and by author position in the sequence of contributors, for both the entire career and for the preceding 5 years, and ii) the number of Doctoral dissertations supervised as promoter. Secondary parameters include h index, number of (hetero-)citations, number of books (author, chapter author or editor), obtained research funding, obtained patents, and several other scholarly activities.

8.6 Quality assurance system, information of public and stakeholders, and extent to which bibliometric data are applied

The quality assurance of the research performed at the FVMG is conducted at 3 main levels (see also 8.2 and 8.3):

1.) For the **research projects**, there are some differences between fundamental research projects (mainly funded by the Research Foundation Flanders (FWO-Flanders) and Special Research Fund of Ghent University (BOF UGent)) and more valorization-oriented research (mainly the Agency for Innovation by Science and Technology (IWT), Federal Public Service for Health, Food Safety and Environment (FOD) and Industrial Research Fund of Ghent University (IOF UGent)).

For FWO and BOF funded projects, the public and stakeholders are informed through publications, Doctoral dissertations and a final report.

For the valorization-oriented projects, the same parameters are assessed together with valorization criteria such as intellectual property.

In addition, regular meetings of a guidance committee in which stakeholders are present and intermediate reports (each 6 months or every year, depending on the type of project) are asked. In certain types of projects the valorization of project results takes more than 40% of the total project time and has to be quantified by e.g. creating a website to inform the public and/or organizing national and international conferences.

2.) The quality of the research performed by **doctoral (PhD) researchers** is assured by Doctoral Schools at UGent, and by the Faculty Research Committee. The latter committee has set minimum rules to obtain the Doctoral dissertation. These include a minimum of 2 first-author publications in the top 50% (based on impact factor) of a particular Web of Science discipline, or 3 first-author papers if not published in the top 50%. Deviations from these rules are forwarded for advice to the Faculty Research Committee.

Furthermore, quality is assured by the installment of a doctoral guidance committee, and a reading and examination committee for each doctoral (PhD) researcher.

Moreover, UGent provides a research quality bonus to promoters of successfully defended Doctoral dissertations provided that the thesis contains at least 1 publication in the top 10% (based on impact factor) of a Web of Science discipline or otherwise at least 2 publications in journals present in the Web of Science. Up till December 31, 2012 this bonus amounted to 10,000€. From January 1, 2013 onwards, this bonus becomes 5,000€ plus 1,000€ extra if the doctoral programme is successfully followed.

This amount can still be raised with an extra 1,000€ for those doctoral (PhD) researchers assigned on externally funded projects, and an extra 2,000€ for those paid with own resources.

3.) For **publications**, bibliometric benchmarking analysis of UGent has been performed by the Center for Science and Technology Studies of Leiden University, the Netherlands in 2008. This study covered scientific articles (original research articles, letters, notes and reviews) published during the period 2001-2006 in journals available on the Web of Science. Several impact and output indicators were calculated such as the number of papers published, the number of citations (with and without self-citations), the average number of citations per paper without self-citations and the latter parameter divided by the mean Field Citation Score or by the mean Journal Citation Score. A first analysis occurred of the aggregated output of UGent. The output indicators were calculated for the entire university and for the various research fields within the university and were evaluated by ranking them among these calculations for 366 other universities. The data demonstrated that Veterinary Sciences was the discipline with the highest number of publications at UGent. A second analysis evaluated the output indicators for the various research fields at the level of the faculties. In a third analysis, impact and output indicators were calculated for research groups or departments within each faculty. The results of the analyses were thoroughly discussed at the level of the departments, the Faculty Research Committee and the Faculty Council, as well as by the Research Committee and the Research Coordination Office of UGent. The bibliometric benchmarking analysis results, feedback of the Faculty Research Committee, and main conclusions and advices were written down in a report of the Research Coordination Office. Some important considerations of the evaluation report concerned the limitations of the output indicators for veterinary research. Especially research in very specialized domains such as in 'minor species' (birds, small mammals, reptiles, amphibians, ornamental fish, ...), in which few researchers are active, becomes underscored. This is also the case for "broad" subfields, which cover not only veterinary research but medical research as well, such as microbiology/virology/immunology/genetics, which become underscored too. A [bibliometric study for the period 2002-2011](#) was organized in the 2nd half of 2012, the results will be discussed in the near future.

A list of publications of 2012 (N), 2011 (N-1) and 2010 (N-2) is provided at <http://www.ugent.be/di/nl/publicaties.htm>.

8.7 Comments

- The ratio of number of Doctoral dissertations defended annually vs. number of permanent staff is 0.75, which is very high, compared to many other faculties at UGent. In contrast to these other faculties, however, the FVMG has very few permanent staff members especially dedicated to research, called 'research professors'. This hampers the future development of the doctoral (PhD) training into an advanced education programme in veterinary medicine. We believe that UGent should do a similar effort for its FVMG as it does for the other faculties in this respect.

- In the current situation, day-to-day management of research as well as training at doctoral (PhD) level is mainly performed by the autonomous academic staff members of the FVMG, who have many other tasks. In several departments, post-doctoral (PhD) researchers can booster research and can play an important role in the training of PhD students. The funding for these post-doctoral (PhD) researchers is usually obtained by soft money. Unfortunately, they do not have a permanent position and postdoctoral fellowships are difficult to obtain.

- The FVMG holds a unique position in Flanders regarding its research expertise in animal diseases in a variety of relevant target animal species. While highly relevant to student training and the subsequent veterinary career, research into animal diseases on average yields lower numbers of citations compared to e.g. human medicine, especially when dealing with “minor” species or other disciplines for which only a limited number of researchers are active worldwide. The lower number of citations becomes also disadvantageous when publishing in subject categories containing both human and veterinary medicine papers (e.g. “Immunology”, “Virology”, “Microbiology”) and when bibliometric studies use parameters comparing the number of citations of a given manuscript to the average number of citations in these subject categories.

8.8 Suggestions

- UGent management should do equal efforts for its FVMG as for the other faculties with respect of attracting research professors, in order to ensure the future development of the doctoral (PhD) programmes.

- There is clearly a need for a more extensive and more stable post-doctorate staff.

- UGent should further support research in domains that are important for student training but in which only a limited number of researchers are active worldwide and thus only few citations can be expected.



9 CHAPTER 9 - ASSESSMENT OF INTERNATIONALIZATION OF EDUCATION & RESEARCH

9.1 Assessment of international post-graduate education and of cooperating research projects with other countries, including developing countries

9.1.1 International post-graduate education and co-operative projects

UGent is very active in the promotion of international post-graduate education and co-operative projects.

First of all, a [platform for the cooperation opportunities](#) was created whereby numerous possibilities are offered to postdocs & tenured staff.

This platform includes initiatives from:

- UGent: [Bilateral Agreements Santander Group](#), Doctoral Scholarships, [Post-Doctoral and Tenure-track Fellowships](#), [Visiting Postdoctoral Fellowships](#), [Doctoral Scholarships for Candidates from Developing Countries](#), [funding for joint doctorates](#), [co-funding for Chinese doctoral candidates holding a CSC-grant](#), Master grants for candidates from developing countries, IOF Post-Doctoral Technology Developers, [Membership in International Organizations](#), [China Platform](#), India Platform UGent.
- the Flemish government: Doctoral Scholarships for EU citizens, [Post-Doctoral Level](#), Foundation – Flanders, Visiting Postdoctoral Fellowships, [Scientific Research Networks](#), [Bilateral Agreements](#) between Flanders and Argentina, Bulgaria, Ecuador, Japan, Poland and the U.S, Doctoral Scholarships for EU citizens, IWT Post-Doctoral Fellowships, Cooperation programme with Central and Eastern Europe, [Cooperation programme with France](#), [Royal Flemish Academy for Science and the Arts](#).
- Belgian Federal Government Initiatives: [Postdoc Fellowships to non-EU Researchers](#) in Eastern Europe, Caucasus, Central Asia, the Mediterranean region, Central Africa and South America, [Bilateral Agreements](#) between Belgium and the following partner countries: Bulgaria, China, Poland, Russia, Vietnam and Argentina. [Interuniversity Attraction Poles \(IAP\)](#), University Development Cooperation Programme, International Course Programmes (IPC), ...
- Participation in International Cooperation Programmes initiated by the European Commission and other Organizations: [Lifelong Learning Programme \(LLP\)](#), [Tempus IV](#), Seventh Framework ESF Collaborative Research, Belgian American Educational Foundation (BAEF), [U.S. Fulbright programme](#), ...

For more information see:

<https://www.ugent.be/en/ghentuniv/worldwide/staff/overview.htm>

By stimulating the international post-graduate education and joint venture research), UGent, including the efforts made by the FVMG, assure a good international position (ranking) <https://www.ugent.be/en/research/organisation/rankings.htm>

To further promote internationalization, a central EU cell was installed to support projects and to guide in the financial matters of these projects.

<https://www.ugent.be/nl/onderzoek/financiering/eu-int/kaderprogramma>

The FVMG is actively involved in different areas of the university platform whereby staff members participate in different projects (Figure 9.1). As represented in this overview, most international collaborations are based on mutual research projects whereby exchange of doctoral (PhD) researchers and joint international projects are of major importance.

Figure 9.1: Overview of international collaboration per department.

The Faculty of Veterinary Medicine participates in numerous international projects in many different countries

Some examples:

- European project (PARASOL) for the control of infections with gastrointestinal nematodes in ruminants in Europe.
- EU project on the potential increase in Salmonella contamination of laying hen eggs (Germany, Italy, Turkey, Greece and Denmark).
- European research projects including the pathogenesis of influenza in pigs and the control of porcine reproductive and respiratory syndrome (PRRS).
- IAEA/FAO project for development of radiometric and allied analytical methods for antibiotic and anthelmintic veterinary drug residues (Austria, Mongolia, China, India, Kenya, Korea, Peru, Sri Lanka, Thailand, Tunisia).
- Institutional University Collaboration (IUC) project with Jimma University, Ethiopia (www.iucju.ugent.be).
- International Committees on Veterinary Anatomical, Histological and Embryological Nomenclature (World and European Associations of Veterinary Anatomists).
- Milk secretion and Mastitis Research Centre (MMRC) in cooperation with United States Department of Agriculture (USDA-ARS, USA).

Research and education in developing countries are also stimulated by UGent with an important active participation from the FVMG. Some members of the FVMG have a leading role in projects in developing countries, which focus on zoonoses, animal and even human health problems. Consequently, members of the FVMG are recognized as experts and are invited to assist the Flemish government when federal delegations visit these developing countries (e.g. Myanmar, Cambodia, Vietnam).

9.2 Detailed information of the promotion of international post-graduate education/research

Promotion of international post-graduate education/research at the FVMG occurs by

- 1.) the Faculty Research Committee (FCWO) of the FVMG;
- 2.) the Doctoral School of Life Science and Medicine;
- 3.) the Special Research Fund of the university (BOF) ;
- 4.) funding agencies outside the university such as the Research Foundation Flanders, the Belgian American Educational Foundation, the Flemish Interuniversity Council - University Development Cooperation (VLIR-UOS) and the European Marie Curie Fellowships.

9.2.1 Faculty Research Committee of the FVMG

The Faculty Research Committee of the FVMG has an own budget granted by UGent. This budget allows the committee to take different initiatives to stimulate research, international contacts and training of post-graduates. A doctoral (PhD) researcher can apply once during his/her PhD studies for financial support, for a maximum of 1000 Euro, to attend workshops and congresses. This initiative stimulates doctoral (PhD) researchers to attend international meetings where they can present their research and can come in contact with specialists within their research field.

The Faculty Research Committee awards also grants to post-doctoral (PhD) researchers for a short term (14 to 30 days) or long-term (3 to 6 months) training period at a foreign university or research institute. This allows post-doctoral (PhD) researchers to broaden their knowledge and to introduce new technologies into the FVMG. The post-graduates have to submit a small report to the Chair of the Faculty Research Committee.

9.2.2 Doctoral School of Life Science and Medicine

One of the missions of the [Doctoral schools](#) is to increase the international and social value of the doctorate. Junior researchers are integrated in a vibrant international research community. Doctoral (PhD) researchers are encouraged to attend international training courses and to perform part of their research in research groups outside UGent.

The Doctoral Schools also try to build an international research community in Ghent. To achieve their mission, the doctoral schools installed a flexible doctoral training programme consisting of 4 activity types: specialist courses, transferable skills seminars, research activities (conferences and publications), and the annual progress report. Completion of a minimum set of activities is required to obtain a certificate of the doctoral training programme. A number of these activities aim to stimulate international contacts such as the demand to give 3 contributions (as a presenting author, oral or poster) at a national or international conference.

Doctoral (PhD) researchers are also stimulated to attend relevant and high-quality specialist courses outside UGent. They can apply for a scholarship that covers the courses fees (max. 3 courses and max. 1000 Euro per course). This stimulates doctoral (PhD) researchers to attend relevant courses abroad. Each year the doctoral (PhD) researchers have to submit a report to the doctoral advisory committee and/or PhD supervisor(s) in which they document the progress of their research and the meetings

and courses they have attended. This report has to be approved and is essential to obtain the certificate of the doctoral training programme.

The Doctoral Schools also support internationalisation through several international initiatives such as Erasmus mundus, scholarships, (<http://www.ugent.be/doctoralschools/en/internationalisation>). The working language in the Doctoral Schools is English. The Doctoral Schools financially support initiatives to organize seminars or courses of at least 15 hours for doctoral (PhD) researchers, which is an additional opportunity to bring the post-graduates in contact with international recognized specialists.

9.2.3 The Special Research Fund of UGent

The Special Research Fund of UGent stimulates the international mobility of doctoral (PhD) researchers by mobility grants. These grants support a stay of minimum 2 months and maximum 12 months at a foreign research institution as part of a doctoral research project. The call is continuously open and the application is done using a special template. The Research Council of UGent makes a selection of the applications based on the evaluation of the intrinsic scientific quality of the foreign host institution (research group/lab) and of the added value of the stay at the host institution for the candidate's doctoral research.

Furthermore, UGent has several grants which support research in collaboration with other countries, including those specific for cooperation with developing countries. For all these grants, there is a strong competition and a selection occurs based on the evaluation of the intrinsic scientific quality of the foreign host institution (research group/lab), the UGent host institution, the candidate, the research proposal and for some grants also the development value of the proposal. At the end of the grant period, a report of the applied research has to be submitted to the Research Coordination Office of the Special Research Fund.

A first type of grant is a "sandwich" PhD scholarship for promising doctoral (PhD) researchers from developing countries who wish to carry out half of their doctoral research at UGent and half in their host university in a developing country. No restrictions are imposed on the field of research, nor on the age of the applicant. This programme is limited to universities and research centers in developing countries with which UGent is already cooperating or has cooperated in the last 5 years. The candidate obtains a scholarship for 24 months to work within a span of 48 months on an alternating basis on the doctoral (PhD) dissertation at UGent and at the university or research center in the country of origin of the candidate.

A second type of financial support by the Special Research Fund is for Chinese students who obtained a PhD-grant from the Chinese Scholarship Council (CSC). This co-funding consists of financing for living and accommodation, insurance and a bench fee for the promoter.

A third type of UGent grants stimulating international cooperation supports students who want to make a doctorate under joint supervision of UGent and a non-Flemish partner university or institution for higher education. The doctoral (PhD) researcher has to stay for a minimum of 6 months and a maximum of 24 months at UGent within a span of 4 years. This grant is open to both foreign and Belgian candidates who are enrolled as a doctoral (PhD) researcher at a non-Flemish university or institution for higher education. UGent funding only covers the stay at UGent. No funding is paid for the stay at the partner university/institution. The part of the doctoral (PhD) research carried out at the partner university/institution must be supported or co-financed by the partner university/institution or country.

A fourth initiative of the Special Research Fund stimulating international research cooperation are grants for visiting postdoctoral (PhD) researchers for a stay at UGent that lasts for a minimum of 1 month and a maximum of 6 months. The postdoctoral (PhD) researcher must have several years of postdoctoral experience and needs to be internationally renowned for his expertise. The postdoctoral (PhD) researcher's stay must be an added value for the research work of the host research group.

9.2.4 Funding agencies in Flanders external to UGent

In Flanders several funding agencies external to the university stimulate international contact of doctoral and post-doctoral (PhD) researchers.

The Research Foundation Flanders (FWO-Flanders) has mobility grants for doctoral and post-doctoral (PhD) researchers to attend international conferences and workshops, for a stay in a host institution for a maximum of 4 weeks or for a stay between 5 weeks and one year. Furthermore the Research Foundation Flanders has grants for bilateral cooperation with China, Japan, Ecuador, Quebec, South-Africa and Vietnam.

The Belgian American Educational Foundation has fellowships for advanced study or PhD research at a Belgian university or institution of higher learning for citizens of the United States and at an American university for Belgian citizens, who either have a Master's degree or an equivalent degree, or are working towards a Doctoral dissertation (PhD) or an equivalent degree.

The Commission for Educational exchange between the United States of America, Belgium and Luxembourg gives yearly via a Fulbright Scholarship programme grants for PhD and post-doctoral research at American universities.

The Flemish Interuniversity Council – University Development Cooperation (VLIR-UOS) supports partnerships between universities and university colleges in Flanders and the South looking for innovative responses to global and local challenges. VLIR-UOS was founded in 1976 by the Flemish Interuniversity Council (VLIR) as an overarching consultative between the Flemish universities and the Belgian government. In 1998 the VLIR gained responsibility for the federal funds for university development cooperation of the Flemish universities.

VLIR-UOS is a forum in which representatives of higher education work together for development and share information and best practices. VLIR-UOS is also the most important provider of funds for development cooperation projects in Flemish higher education. VLIR-UOS primarily supports partnerships between universities and university colleges. VLIR-UOS also builds bridges between higher education on the one hand and governments, NGOs and businesses in Flanders and the South on the other. Capacity building and scientific research constitute the main activity in most projects. Other activities include education renewal and improvement, policy support, service provision, organization of trainings and conferences, university policy and management training, student exchanges, language instruction and quality care in higher education.

VLIR-UOS also awards scholarships to students and professionals in Flanders and the South. Lastly, VLIR-UOS helps to strengthen higher education in the South and the globalisation of higher education in Flanders.

Excellent post-doctoral (PhD) researchers can also apply for the European Marie Curie Fellowships to perform research in another country.

9.3 Assessment of internationalization of education for veterinary / newly graduated students

9.3.1 Erasmus programme for undergraduates students

The UGent has a structured programme for the Erasmus exchange including

- the Erasmus Belgica (exchange with Wallonia)
(<http://www.ugent.be/nl/onderwijs/internationalisering/tijdens/erabel.htm>)
- the standard Erasmus programme
(<http://www.ugent.be/nl/onderwijs/internationalisering/tijdens/tijdens.htm>)
- Erasmus Mundus Master programmes
<http://www.ugent.be/nl/onderwijs/internationalisering/tijdens/actie1.htm>
- Bilateral agreements outside EU
<http://www.ugent.be/nl/onderwijs/internationalisering/tijdens/birak.htm>)
- Erasmus Mundus Action 2 projects
<http://www.ugent.be/nl/onderwijs/internationalisering/tijdens/actie2.htm>

Exchange of students inside the FVMG is coordinated by the Faculty Committee for Internationalization chaired by a member of the autonomous academic staff (Prof. C. Burvenich) and supported by the Educational Cell of the Dean's office.

The Faculty Committee for Internationalization includes a Chair, 5 members from the autonomous academic staff, one member from the academic assistant staff and 4 representatives of the students (1 doctoral (PhD) researcher, 1 resident-in-training and 2 undergraduate students).

Detailed data on the mutual exchange of students in the standard Erasmus programme are available from 2000 till 2005 and are presented in Figures 9.1 and 9.2. These

figures include the numbers of students from elsewhere in Europe visiting the FVMG (Figure 9.1), and the number of students from the FVMG going abroad (Figure 9.2).

From 2000 to 2005, the majority of the students of the FVMG followed an Erasmus programme mainly in Northern countries including the Netherlands, while incoming students mainly originated from the Southern part of Europe. During this period, several problems were encountered with the incoming Erasmus students, mainly due to the level of English knowledge being insufficient to follow courses and clinical activities. Additionally, the 3-months programme for the incoming students was very broad and included clinical activities dealing with all different species. As a result, foreign Erasmus students could only spend one week at each department which did not give them the opportunity neither to integrate nor to acquire sufficient knowledge or practical experience in the clinic.

Consequently, the Erasmus programme for the incoming students was reorganized in 2008. This reorganization included:

- The establishment of 3 Erasmus programmes for the incoming students: equine, ruminants or small animals.
- Each Erasmus programme runs over a period of 12 weeks, either in Autumn (October - December) or in Spring (February - April). During these 12 weeks incoming students are very actively involved in the clinics and practical exercises within the chosen species, which allows for a better integration, education and evaluation. This 12 week Erasmus programme accounts for 8 ECTS credits.
- The number of incoming Erasmus students is limited to 18 per year (6 equine, 4 bovine and 8 small animals). The selection is based on motivation and basic knowledge of the English language.

Since 2005 no major changes were done for the outgoing Erasmus students. An overview of the incoming (Table 9.1) and outgoing (Table 9.2) students is provided.

Table 9.1: Incoming Erasmus students in the FVMG from 2005 till 2013.

Sending University	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
A - Wien - University of Veterinary Medicine				2			1	
Cz - Brno - University of Veterinary & Pharmaceutical sciences	2	2	2	2	2	3	3	1
De - Hannover - University of Veterinary Medicine Hannover Foundation						1		
Dk - Kobenhagen - University of Copenhagen						2		1
Ee - Tartu - Estonian University of life Sciences					3		1	1
Es - Madrid - Universidad Complutense de Madrid			1					
Es - Valencia - Universidad Cardenal Herrera							1	
Es - Zaragoza - Universidad de Zaragoza	2	2				2		1
Fi - Helsinki - University of Helsinki								2
Hu - Godolo - Szent Istvan University	2	1	1		2	2	2	
It - Padova - Universita degli Studi di Padova	1		2	2	2	1	1	2

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Pl - Lublin - Akademia Rolnicza w Lublinie									1
Pl - Warsaw - Szkoła Główna Gospodarstwa Wiejskiego	1								
Pt - Lisboa - Universidade Técnica de Lisboa	2	2			1	1			
Pt - Vila Real - Universidade de Trás-os-Montes e Alto Douro						2	2	2	
Ro - Iasi - University Ion Ionescu de la Brad	2	2							
Se - Uppsala - Swedish University of Agricultural Sciences			1						
Sk - Kosice - University of Veterinary Medicine	2	2	2	2	2		1	2	
Sl - Ljubljana - University of Ljubljana									1
Total incoming exchange students per year	13	10	11	8	11	14	13	14	

Table 9.2: Outgoing Erasmus students from the FVMG from 2005 till 2013.

Host University	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
A - Wien - University of Veterinary Medicine	3	2		2		2	1	
Cz - Brno - University of Veterinary & Pharmaceutical sciences								
De - Hannover - University of Veterinary Medicine Hannover Foundation			1					
De - Leipzig - Universität Leipzig		2	2	1		2		
Dk - København - University of Copenhagen	1							
Ee - Tartu - Estonian University of life Sciences								
Es - Madrid - Universidad Complutense de Madrid			2			1		
Es - Valencia - Universidad Cardenal Herrera								
Es - Zaragoza - Universidad de Zaragoza								
Fi - Helsinki - University of Helsinki	1	1	2	2		2		
Fr - Ecole Nationale Vétérinaire de Lyon	2	2	2	2				
Hu - Godollo - Szent Istvan University								
It - Padova - Università degli Studi di Padova								
Nl - Utrecht - Universiteit Utrecht			2	2		1		
N - Oslo - Norwegian school of Veterinary Medicine	2							
Pl - Lublin - Akademia Rolnicza w Lublinie								
Pl - Warsaw - Szkoła Główna Gospodarstwa Wiejskiego								
Pt - Lisboa - Universidade Técnica de Lisboa			2					
Pt - Vila Real - Universidade de Trás-os-Montes e Alto Douro								
Ro - Iasi - University Ion Ionescu de la Brad								
Se - Uppsala - Swedish University of Agricultural Sciences		1	1	1				
Sk - Kosice - University of Veterinary Medicine								
Sl - Ljubljana - University of Ljubljana								
Total exchange students per year	9	8	14	10	0	8	1	0

9.3.2 Other initiatives for undergraduates and newly graduate students

9.3.2.1 Honours programme

Since the current academic year 2012-2013, the biomedically-oriented faculties of UGent (FVMG, Faculty of Medicine, and Faculty of Pharmaceutical Sciences) have started a pilot project to initiate an extra-curricular Honours Programme. The Honours Programme presents a 16 ECTS credit points extra-curricular programme that mainly consists of a 6- to 8-week research training at one of the departments of the participating faculties, in addition to the students' participation in a number of introductory courses on scientific research and scientific lectures. Participation in the programme culminates in the writing of a report in the format of a scientific manuscript. Mentorship is central in the Honours Programme. Each training session is supervised by a mentor who is a member of the autonomous academic staff (ZAP) of the participating faculties.

At the FVMG, 3rd year bachelor students with a good track record are provided with the opportunity to apply for participation in the programme. A good track record consists of a score of $\geq 675/1000$ ('distinction') in the 2nd year bachelor first exam session or ≥ 650 in both 1st and 2nd year bachelor first exam sessions. Between 5 and 10 of the applying students are selected for participation in the programme. The final selection is based on interviews of the applying students, mainly to assess their motivation.

Since the academic year 2010-2011, very promising and highly motivated students of 3rd year bachelor and 1st year master have been stimulated to apply for participation in international research-oriented veterinary summer schools, such as the Cornell Veterinary Leadership Programme (Cornell University, USA) and the Fundamentals of Veterinary Science summer school (Cambridge University, UK). In case of successful application, the exam schedule of the student is rearranged in consultation with both the student and the teaching staff, since both summer schools start during the regular examination period at FVMG. This initiative has led to the successful application of the first FVMG students at both of these summer schools, with very positive feedback by the participating students.

9.3.2.2 Exchange of residents

Most of the clinical European Colleges include an international extramural period for the residents (enrolled as students in the UGent) whereby an exchange between residents is performed between recognised faculties in the different clinical disciplines. Most residents of a clinical discipline choose for a variable period of exchange either inside or outside Europe (mostly United States). An evaluation of the period abroad is provided by the supervising Diplomate of the exchange faculty. This report is included in the required credentials of the resident in order to be accepted to sit the final exams.

The European College of Veterinary Pathology has also developed a system for their residents whereby summer schools are organised according the Marie Curie system. Residents are taught theoretical and practical (gross and microscopic) veterinary pathology during a 14 days course. The programme of three successive summer schools covers all aspect of veterinary pathology (histopathology (including cytology

and electron microscopy), gross pathology, general pathology, small animal pathology, large animal pathology, laboratory animal pathology, fish pathology, exotic animals pathology, poultry pathology and toxicologic pathology), including mock examinations. Information is available at <http://www.ecvpath.org/summerschool/>.

9.3.2.3 Extramural training of final year students

An extramural training is incorporated in the programme of all final year students. Although most students perform training inside Belgium, many students choose for the extramural period outside Belgium. Veterinary positions in the Netherlands are often selected by the students (the working places have to be approved by the coordinator of the pertaining track). Other students even prefer to go outside Europe, and extramural training in clinics in Dubai, the United States, Mexico and even South Africa has been granted. The requests of these motivated students are supported by the FVMG and the UGent on the condition that all practical arrangements have to be made by the students (with help of the coordinator of the specific track).

9.3.2.4 Exchange students track Ruminants with FVM Utrecht, the Netherlands

This active exchange of students between the FVMG and Faculty of Veterinary Medicine of Utrecht started in 2004 on a non-official base. An official structure was installed in 2006 whereby each year 10 students of each faculty were exchanged between both faculties to gain practical experience in the external ruminant services of each faculty. Although all students were enthusiastic, this exchange was unfortunately stopped in 2010 because of the financial impact of sending students to the private ruminant practices in the Netherlands.



10 CHAPTER 10 - ASSESSMENT OF COOPERATION WITH STAKEHOLDERS AND SOCIETY

10.1 Contacts with stakeholders

The FVMG maintains contact with its stakeholders through several channels.

10.1.1 Scientific organizations

A first channel is the formal and long-lasting participation of the FVMG in a wide range of national and international professional and scientific organizations.

A short, non-limitative overview of the participation of the FVMG within these organizations is presented below:

- National and Regional Chamber of Veterinarians ("[Orde der Dierenartsen](#)"): the Chamber of Veterinarians is responsible for the redaction and control of the Code of Conduct for veterinarians and serves as the main contact for external organizations for all matters related to the veterinary profession. Two faculty members represent the FVMG within the Flemish part of the Chamber, and 2 other faculty members represent the FVMG within the National Chamber
- Belgian Equine Practitioners Society: 3 faculty members are active in the board within this national organization of equine practitioners
- Flemish Society of Equine Practitioners (WVGP): 2 faculty members are active within the board of this Flemish organization of equine practitioners
- Flemish Buiatrics Association: 2 faculty members are in the board of this association.
- International Pig Veterinary Society Belgian Branch (IPVS-BB): 3 faculty members are in the board of this association for porcine medicine.
- World Veterinary Poultry Organization Belgian Branch (WVPO-BB): 3 faculty members are board members of this organization.
- Scientific Council of the Central Veterinary Institute of Belgium (CODA): 2 faculty members are present in this council.
- Scientific Committee of the Federal Agency for Food Safety: 2 faculty members represent the FVMG within this committee.
- Small Animal Veterinary Association Belgium: 1 faculty member represents the FVMG.
- Workgroup Neurology Small Animals Belgium: 1 faculty member represents the FVMG.
- Flemish Veterinary Association ("Vlaamse Dierenartsen Vereniging"): 1 faculty member represents the FVMG.
- Deontological Committee of Belgium (experimental animals): 4 faculty members act as representatives of the FVMG.
- Animal Welfare Council of Belgium: 1 faculty member is a board member of this council.

The FVMG supports and stimulates the active presence of faculty members within these organizations, as this is an excellent opportunity to keep in close contact with the different working fields of the profession. The presence of the members of the FVMG is greatly appreciated as this is a source of competence and because the logistic support of the FVMG (e.g. meeting rooms and auditoria) can be of assistance to these organizations. The FVMG rewards the staff members who actively participate in these professional or scientific organizations by giving them credits for these activities during their evaluation process (i.e. under the heading of service to the community).

Due to the diversity of the areas in which veterinarians are active and the many area-specific associations, a specific veterinary alumni association covering all these working fields has not yet been created.

A university wide alumni association however does exist

(<http://www.ugent.be/nl/actueel/nieuws/indekijker/aaw2012.htm> / <http://be.linkedin.com/groups?gid=56611>).

10.1.2 Continuous professional development

Another example of the close cooperation of the FVMG with the profession is the organization of continuing professional development (CPD) courses (see chapter 7). The FVMG offers a large array of CPD courses to the profession in close cooperation with the profession. This cooperation is achieved through the active participation of private practitioners in the different working groups (e.g. equine, ruminant, porcine, food hygiene, ...) where the subjects for CPD courses are determined.

Additionally the Institute for Permanent Training of the FVMG hosts several meetings of the professional associations (Buiatrics meeting, International Pig Veterinary Society meetings,) by giving logistical support (registrations, auditoria, catering, ...). These CPD courses provide an excellent source of contact with and feedback from the profession to the faculty staff.

These contacts with the profession are also present through the numerous lectures and demonstrations that staff members present at meetings of regional veterinary societies.

10.1.3 Participation of practitioners in extra muros training

Continuous contact with the profession is achieved by the extra muros training of the students. The evaluation forms by the veterinarians and the reports of the students provide interesting information to the faculty concerning the overall quality of the students and hence of the study programme, next to information on the daily activities in and the structure and organization of the Flemish veterinary practices.

10.1.4 Surveys amongst alumni

An important channel through which the FVMG maintains an active contact with its alumni, is the organization of the surveys amongst alumni (see chapter 5). These surveys are organized by the FVMG on a 6-year rotation scheme and are primarily aimed at getting statistically relevant and formal feedback from the profession concerning the structure and development of the study programme offered by the FVMG. This information is of major importance for future study programme

development. Additionally, UGent organizes surveys among alumni every 3 years, during which, amongst other items, “client satisfaction” with the study programme and its pertaining training is evaluated.

In order to inform the profession on the results of this survey, the information is published in the Flemish Veterinary Journal: the first publication of these results occurred in 2006 ([article Jeroen Dewulf](#)). The results of the subsequent survey performed in 2011 will also be published in the Flemish Veterinary Journal.

10.1.5 Expovet

The FVMG actively participates in the exhibition “Expovet” which is organized each year by the students of the FVMG. The FVMG also provides financial and logistic support to this major event, which is attended by hundreds of practitioners and many private companies dealing with veterinary equipment, pharmaceuticals, nutrition etc.

10.2 Contacts with society

10.2.1 Prospective students

10.2.1.1 Website and brochures of the university

Up-to-date, objective and accurate information, both quantitative and qualitative, about the study programme is available through the UGent website. This is the main source of information for the general public and especially for prospective students. This information is available in Dutch and in English (<http://www.ugent.be/en/teaching>).

Additionally, brochures are yearly updated and distributed to prospective students at high schools, during SID-ins (Study Information Days) and during other contacts of UGent with the general public. Some examples of the information available at the university website can be found at the following website links:

<http://www.ugent.be/nl/onderwijs/opleidingsaanbod/courses/gbdier?openwithform=fmDisplayCourseOverview>

<http://www.ugent.be/nl/onderwijs/opleidingsaanbod/courses/gmdiergd?openwithform=fmDisplayCourseOverview>

At the occasion of the 75th anniversary of the FVMG in 2009 (a well documented and illustrated brochure about the FVMG history, its departments and its overall organization has been published both in printed format and as a PDF on the FVMG website (<http://www.ugent.be/di/nl/75jaar.htm>).

10.2.1.2 Scientific publications

Information on the study programme is also regularly published under a more “scientific” format in the Flemish Veterinary Journal. These publications aim at providing factual information to our major stakeholders, i.e. the veterinary practitioners, and can also be used as a source of reliable information for the general public. They are freely available at the website of the journal and through Open

Access. Basically the FVMG describes in these publications to what extent the study programme meets the expectations of the practitioners and how new students cope with the study load in the 1st year.

As previously mentioned, the results of the alumni survey in 2006 have been published in the Flemish Veterinary Journal ([article Jeroen Dewulf](#)).

In another publication in 2006, an overview was given of the study results of the 2005 cohort of new students in veterinary medicine in function of their previous high school education ([article Veerle Steenhaut](#)). These results have been used afterwards to give advice to prospective students and are regularly updated with information on new student cohorts.

In 2007, the structure of and rationale behind the new veterinary study programme with the different tracks based on the results of the previous studies was published to inform the profession and all interested parties concerning this major change in the study programme ([article Paul Simoens](#)).

10.2.1.3 Open classes and student information days

Since 2012 “open classes” are organized by UGent during which prospective students can attend several regular lectures in order to obtain an impression on the course content and teaching methods at the university level (<http://www.ugent.be/nl/onderwijs/opleidingsaanbod/bacheloropleidingen/infosessie/openlessen>).

Additionally, high school students are annually offered SID-ins (Study Information Days), where information on the veterinary study programme and their career options in the veterinary profession is provided. This is organized by the Department of Educational Affairs at university level and by the Education Quality Control Unit of the FVMG at faculty level.

The [SID-ins](#) organized by UGent take place in the five Flemish provinces and usually last 3 days. The FVMG is represented on each of these events by 1 or 2 members of the Education Quality Control Unit. During the SID-ins general information on the study programme is given to prospective students, together with detailed information on success rates in correlation with the previous high school programmes and career possibilities after graduation. A set of flyers has been created for this purpose, partially based on the results of the 2006 publication of study results (annex 10.1: Information material SID-ins).

At the FVMG, an information day for prospective students (and their parents) is yearly organized in March. During this day, specific information is provided on the veterinary study programme and future career opportunities. Additionally, demonstration of practical exercises on anatomy and histology are organized and the prospective students can talk to the first year lecturers and have a look at the 1st year syllabi.

Finally a "Startersdag", i.e. the first day of the starting students at UGent, is organized to welcome new students. In the morning, staff members of the FVMG present lectures about the contents and the organization of the courses of the 1st bachelor

year of the studies and of the 6-year study programme in general. This includes a presentation with general information about student life. In the afternoon, senior undergraduate students assist the incoming students to get acquainted with the campus and to give them a warm welcome. The programme for the "Startersdag 2012" can be found on the FVMG website

(<http://www.ugent.be/di/nl/onderwijs/startacademiejaar/startacademiejaar.htm>).

10.2.2 General public

The FVMG provides information to the general public using several ways.

The FVMG website is an important source of up-to-date information to the general public. The FVMG puts a lot of effort in maintaining an accurate up-to-date website as a major source of information for all of its stakeholders. The FVMG website can be found at the following address: www.ugent.be/nl/di. A concise English version can be found at <http://www.ugent.be/di/en>.

Clients (owners of animals) can find relevant information about the clinics, such as opening hours and services.

Future students can find relevant information about the student profile, admission requirements, study programme, etc.

Students consult the website for information about the practical organization of the course schedules, clinical rotations, examinations, etc. The general FVMG website further redirects students and the general public to the general UGent website or to the electronic learning platform 'Minerva' for more specific information whenever appropriate.

Veterinarians can consult the website regarding continuing education programmes, diplomate training programmes, public defenses of Doctoral (PhD) dissertations, and more general news items. The FVMG website also contains a vacancies page where veterinarians or companies can post job offers.

Every two to three years the FVMG, with the help of the student organization, organizes "Open Door Days" for the general public. This event takes place in a weekend and several thousands of visitors come to visit the FVMG, during which all departments present general information on animals, animal health and animal health care.

The FVMG also possesses a museum containing a large collection of skeletons, plastinated organ material, vascular casts, etc. These objects were originally intended for the students in veterinary medicine, but in recent years this collection has been opened to the general public. A museum conservator has been appointed for this task, and schools, associations and individuals can visit the museum or obtain a guided tour.

The Museum Committee of the FVMG organizes thematic exhibitions on the history of veterinary medicine within the FVMG, and on occasions outside the FVMG as well. One of the major exhibitions in recent years was a travelling exhibition on veterinary medicine that was created during the 75th anniversary of the FVMG, in cooperation with the city of Waregem (<http://www.waregem.be/over-waregem/kort-maar-krachtig/stad-van-het-paard/tentoonstelling-2011>). During this 75th anniversary in 2011, several activities were also organized within the faculty, such as an open door day for the alumni and the general public, and a scientific symposium on the occasion of the *Doctor Honoris Causa* ceremony for Prof. Dr. Peter Doherty, the only veterinarian who has been awarded a Nobel Prize (annex 10.1).

The FVMG furthermore informs the general public by an active engagement in science popularization initiatives, such as the annual “Science week” (<http://www.wetenschapsweek.be/indekijker/search.asp?action=detail&id=1612&orgid=476> ; <http://www.ugent.be/nl/actueel/nieuws/oproep-wetenschapsweek-2012.htm>) and by participation in various organizations that provide information to the general public, such as for example the [Flemish horse information site](#).



