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INTRODUCTION

The Universidad Alfonso X El Sabio has been offering a Veterinary Medicine Degree since 2002, which syllabus is outlined in Official State Gazette (BOE) 256 of 25/10/2002.

The publication of the University Act of December 2001 (referred to in Spain as LOU), replacing the University Reform Act, introduced a series of changes to higher education in Spain, such as the modification of the structure of the different University levels, new types of teaching staff, the creation of the national quality assurance agency (ANECA) and new mechanisms for training excellence, based on the Sorbonne and Bologna Declarations to create the European Higher Education Area (EHEA), with the purpose of harmonising higher education in Europe. The process to change the study programme from a Licence Degree to a BSc-equivalent Degree in Veterinary Medicine was initiated in 2009.

The Faculty of Veterinary Medicine at UAX is an integrated part of a university campus in Villanueva de la Cañada, in Madrid, and it is run by a quality management system certified by AENOR (Spanish Association for Standardisation and Certification, http://www.en.aenor.es/).

In a market that is becoming increasingly globalised, quality is an essential strategic factor. Since it was founded in 1986, AENOR has worked hard to promote the quality culture throughout the economic fabric. AENOR has made a significant contribution to Spain's current status as the second leading country in Europe and fourth in the world in terms of ISO 9001 Quality Management certificates.

In addition to the general ISO 9001 standard, there are certifications that comply with the specific needs of sectors. These include aerospace and automotive certifications, as well as the others related to service quality in different types of tourist establishments and small businesses. The service
sector has hugely benefited from the advantages provided by the certification process.

ANECA (NATIONAL QUALITY ASSESSMENT AND ACCREDITATION AGENCY) http://www.aneca.es

ANECA is a state agency whose objective is to provide external quality assurance to the university system and to contribute to its continuous improvement. It has developed a range of programmes to implement its work (evaluation, certification and accreditation), with the aim of integrating our system into the European Higher Education Area:

Institutional and teaching evaluation programmes:

- **VERIFICA PROGRAMME**: evaluates degree proposals designed in accordance with the aims set for the establishment of the European Higher Education Area.
- **MONITOR PROGRAMME**: monitors the already accredited programmes until resubmission for accreditation renewal.
- **AUDIT PROGRAMME**: aimed at university centres to provide guidance in establishing their own internal quality systems.
- **QUALITY AWARD FOR DOCTORAL PROGRAMMES**: acknowledgment of the scientific, technical and educational high standards of certain Doctoral programmes.

Teaching staff evaluation programmes:

- **For teaching-staff recruitment (PEP)**: evaluates the teaching and research activities as well as the academic backgrounds of applicants to positions of non-civil servant academic staff (PhD Lecturer, PhD Assistant Lecturer, Non-PhD Assistant Lecturer and private universities Lecturer) as defined by the University Act Reform Act (referred to in Spain as LOMLOU).
• **National Accreditation (ACADEMIA):** evaluates the applicants’ profiles to access the civil-service positions as University academic staff (Senior Lecturer and Professor).

• **DOCENTIA PROGRAMME:** provides support to universities wishing to establish their own mechanisms to evaluate the quality of the teaching of their academic staff.

**ANECA is part of ENQA**

The **European Association for Quality Assurance in Higher Education (ENQA)** is an umbrella organisation which represents quality assurance organisations from the European Higher Education Area (EHEA) member states. ENQA promotes European cooperation in the field of quality assurance in higher education and disseminates information and expertise among its members and towards stakeholders in order to develop and share good practice and to foster the European dimension of quality assurance.

These measures guarantee accredited operation, permanent tutorial systems, student attendance and an academic organisation system which optimises the ratios in each type of teaching activity.

The following points should also be highlighted:

1. The opening of the Veterinary Teaching Hospital with teaching activity and care provided 24-hours a day, 365 days of the year. There has also been a constant increase in case load in both small and large animals’ areas, and various residency programmes have been set up.

2. The opening of the Veterinary Teaching Farm, with production animals and a zoology unit for practical work.
3. Development of a food technology plant where a large amount of fieldwork covering all matters related to food processing and production can be conducted.

4. Appointment of clinical professionals at the farm, Veterinary Teaching Hospital (HCV) and slaughterhouse, which guarantee a wide range of quality fieldwork.

5. Expansion of our facilities, including the Library reading room (with new computer access and document retrieval systems), dissection and necropsy rooms, and the inauguration of the Anatomy Museum with a significant number of exhibits.

6. The Bachelor's Degree in Veterinary Medicine has allowed the Faculty to improve the ratio of theoretical and practical course content; set up the supervised practical sessions as a core subject and create practical rotation MODULES to avoid overlaps and timetable clashes between theoretical and practical course components. In addition, practical training is now conducted in smaller groups of 10 students and groups with even fewer students in clinical subjects.

7. Extra-curricular summer externships which give students the opportunity, whether in receipt of scholarships or not, to carry out internships in establishments covering veterinary clinics, government, animal feed mills, slaughterhouses, etc.

8. Establishment of PhD programmes with quality certifications and university master's courses adapted to the new standards required by the European Higher Education Area. We also take part in Continuous Training Days and Courses.

9. Welcome Days are organised each year, aimed at a convenient and fast integration of the new students.
10. The existence of personalised tutorial programmes and psychopedagogical support office that provides assistance to both students and families.

We are currently engaged in the following projects:

- Increasing the offer of post-graduate courses;
- Increasing external practical work in the clinical field of production species;
- Improving facilities;
- Increasing the number of conferences or sections on a wide range of subjects, both for teachers and students, delivered by independent experts or experts invited by our University from other universities.
1. OBJECTIVES

Please indicate if there is an official list of general objectives in the Faculty.

If this is the case,

- please mention them.
- Who determines the official list of Faculty objectives?
- By what procedure is this list revised?
- Do you have a permanent system for assessing the achievement of the Faculty’s general objectives? If so, please describe it.
- If there is no official list, please mention the objectives towards which the Faculty is aiming.

1.1. INFORMATION

The aim of Veterinary Sciences training is to provide students with the knowledge, techniques, skills and attitudes that are specific to the profession, at the same time as encouraging the individual's growing recognition of their inherent responsibility to practise their profession independently.

Within the teaching field in general, and particularly at Universidad Alfonso X el Sabio, general and specific competences shall be in line with:

3. The democratic values and values of a culture of peace enshrined in the Fostering of education and the culture of peace Act 27/2005 of 30th November.

Current legislation establishes the profession of Veterinarian in the Royal Decree 1393/2007, which establishes the organisation of veterinary studies, as a regulated profession requiring a relevant official degree in order to practise it, obtained in accordance with the provisions of Article 12.9 of Royal Decree...

The guidelines for regulated professions are set out in Royal Decree 1837/2008. Basic training in Veterinary Medicine is covered in Section 5 of this Royal Decree, in Article 51, in which it is established that accredited veterinary training must require that the applicant has acquired the following knowledge and professional skills:

a) adequate knowledge of the sciences on which veterinary practice activities are based;

b) adequate knowledge of the structure and functions of healthy animals, of their husbandry, reproduction and hygiene in general, as well as their feeding, including the technology involved in the manufacture and preservation of foods corresponding to their needs;

c) adequate knowledge of animal behaviour and protection;

d) adequate knowledge of the causes, nature, course, effects, diagnosis and treatment of the diseases of animals, whether considered individually or in groups, including a special knowledge of the diseases which may be transmitted to humans;

e) adequate knowledge of preventive medicine;

f) adequate knowledge of the hygiene and technology involved in the production, manufacture and putting into circulation of animal food products or food products of animal origin intended for human consumption;

g) adequate knowledge of the laws, regulations and administrative provisions relating to the subjects listed above;

h) adequate clinical and other practical experience under appropriate supervision.
Order ECI/333/2008 of 13th February, which establishes the requirements for the recognition of official university degrees that qualify for the exercise of the profession of Veterinarian. The following objectives and general and specific competences which students must acquire are established in that Order:

**OBJECTIVES AND GENERAL SKILLS**

The objectives of the Degree in Veterinary Medicine are summarised as training of graduates with knowledge and professional training that guarantees animal and human health, through the objectives and the acquisition of the following competences:

**GS1.** Control of hygiene, inspection and production technology and the preparation of food products intended for human consumption, from primary production until they reach the consumer.

**GS2.** Prevention, diagnosis and individual or group treatment, and the fight against animal diseases, whether considered individually or in groups, particularly zoonotic diseases.

**GS3.** Control of the husbandry, handling, welfare, reproduction, protection and feeding of animals, and the improvement of their production.

**GS4.** Obtainment of animal products under optimal and economically viable conditions and their environmental impact assessment.

**GS5.** Knowledge and implementation of legal, regulatory and administrative provisions in all areas of the veterinary profession and public health, including the ethical implications of health in a changing global context.

**GS6.** Exercise of professional practice with respect for other health professionals, acquiring skills related to teamwork, with the efficient use of resources and with quality management.

**GS7.** The identification of risks arising in all areas of the veterinary profession.
TRANSVERSAL SKILLS

The basic transversal skills in the Health Sciences Faculties at the Universidad Alfonso X el Sabio are:

**BTS1.** To know and apply the techniques of editing, layout, sharing and distribution of digital content, and using this content in a range of professional settings.

**BTS2.** Manage a digital-information processing professional environment covering the aspects of processing most in demand in a daily use context.

**BTS3.** Create presentations in order to defend ideas and projects.

**BTS4.** Create digital content which integrates various types of media.

SPECIFIC SKILLS

Structured by modules, the specific skills which a student must acquire are:

- **Common basic training:**

  Knowledge and application of the following principles and knowledge bases:

  **SKB1.** Knowledge and application of biometrics and statistics applied to veterinary sciences.

  **SKB2.** Knowledge and application of physical and chemical foundations of biological processes and their applications in veterinary sciences.

  **SKB3.** Knowledge and application of the morphology, bionomics and systematics of animals and plants of veterinary interest.

  **SKB4.** Knowledge and application of the structure of the eukaryotic cell and its organisation in tissues and organs.

  **SKB5.** Knowledge and application of the morphology, topography and structure of organs and systems.

  **SKB6.** Knowledge and application of cell excitability and communication.
SKB7. Knowledge and application of the functioning and regulation of body equipment and systems.

SKB8. Knowledge and application of homeostasis.

SKB9. Knowledge and application of ontogenetic development, congenital abnormalities and applications of embryology.


SKB11. Knowledge and application of the basic principles of genetic biotechnology and population genetics.

SKB12. Knowledge and application of ethnological and productive characteristics, with special reference to handling.

SKB13. Knowledge and application of the foundations of animal behaviour and the domestication process.

SKB14. Knowledge and application of the study of micro-organisms and parasites which harm animals and those which have an industrial, biotechnological or ecological application.

SKB15. Knowledge and application of the foundations and technical applications of the immune response.

SKB16. Knowledge and application of nosology.

SKB17. Knowledge and application of descriptions and pathogenesis of general disruption to the structure and function of cells, tissues, organs and systems.

SKB18. Knowledge and application of ethical principles of the veterinary profession.

SKB19. Knowledge and application of veterinary standards and regulations.

SKB20. Knowledge and application of animal welfare and protection.


SKB22. Knowledge and application of general and veterinary marketing and business management.

- **Clinical Sciences and Animal Health:**
SKB23. Knowledge and application of the methods and procedures of clinical examination, complementary diagnostic techniques and their interpretation.

SKB24. Knowledge and application of diagnostic imaging and radiology.

SKB25. Knowledge and application of necropsy.

SKB26. Knowledge and application of the recognition and diagnosis of the various types of injury and their connection with pathological processes.

SKB27. Knowledge and application of general pharmacology foundations and the study of the various types of drug.

SKB28. Knowledge and application of the clinical study of the ill individual and medical, surgical or hygiene and dietary treatment required and sporadic diseases that affect groups.

SKB29. Knowledge and application of diagnostics.

SKB30. Knowledge and application of surgical techniques used in veterinary medicine.

SKB31. Knowledge and application of animal anaesthesia and resuscitation.

SKB32. Knowledge and application of reproduction, labour and the postpartum period: care and diseases.

SKB33. Knowledge and application of assisted reproduction.

SKB34. Knowledge and application of drug therapy.

SKB35. Knowledge and application of the identification and study of natural and synthetic toxic substances.

SKB36. Knowledge and application of animal and environmental toxicology.

SKB37. Knowledge and application of ichthyopathology.

SKB38. Knowledge and application of the transmission and maintenance of diseases and methods of studying disease in populations.

SKB39. Knowledge and application of infectious and parasitic diseases of veterinary interest, including their diagnosis and combat.
SKB40. Knowledge and application of zoonotic diseases and public health.

SKB41. Knowledge and application of health encouragement in animal groups, including wild animals, with the aim of achieving maximum economic viability in a socially and ethical manner and in terms of health.

SKB42. Knowledge and application of technical measures and regulations for preventing, controlling and eradicating animal diseases.

- **Animal Production.**

  SKB1. Knowledge and application of the foundations of animal production: traditional and current systems.

  SKB2. Knowledge and application of raw materials for animal feeding: characteristics, production and storage.

  SKB3. Knowledge and application of the foundations of animal nutrition, feed ration formulation and animal feed manufacturing.

  SKB4. Knowledge and application of genetics to improvement and health programmes.

  SKB5. Knowledge and application of reproductive strategies and procedures applied to production.

  SKB6. Knowledge and application of the principles of livestock facilities and environmental hygiene.

  SKB7. Knowledge and application of the economy of the productive and marketing process. Sustainable development.

  SKB8. Knowledge and application of aquaculture.

- **Hygiene, technology and food safety.**

  SKB9. Knowledge and application of components and characteristics of food products.
SKB10. Knowledge and application of technological processes for obtaining, storing and processing food products. Changes, disruptions and alterations that they may undergo.

SKB11. Knowledge and application of health criteria and the legal basis for inspection.

SKB12. Knowledge and application of ante- and post-mortem veterinary examination.

SKB13. Knowledge and application of the inspection of establishments and products.

SKB14. Knowledge and application of good hygiene practices, hazard analysis and critical control points.

SKB15. Knowledge and application of the handling and treatment control.

SKB16. Knowledge and application of food safety and public health.

SKB17. Knowledge and application of food hazard analysis: identification, management and notification of the risk.

SKB18. Knowledge and application of research into foodborne zoonotic diseases.

SKB19. Knowledge and application of infection and poisoning dynamics and demographics.

SKB20. Knowledge and application of epidemiology and diagnosis.

SKB21. Knowledge and application of monitoring and surveillance systems.

- Supervised externships and final year project.

SKB22. Pre-professional practical work in the form of independent clinical rotations and a final competency evaluation, in university veterinary hospitals, mobile clinics, farms, pilot plants, departments with equipment intended for practical teaching of the degree in veterinary medicine, as well as externships in veterinary establishments, slaughterhouses, companies and bodies outside or related to the veterinary field.
SKB23. Final Year Project: transversal subject which is completed in connection with various subjects.

SKB24. Knowledge and practical application of veterinary principles and methodologies, as well as the acquisition of the skills and competences described in the general objectives of the degree.

- **Elective Subject Skills.**

  ES1. Knowledge and application of veterinary history
  ES2. Knowledge and application of specific anatomical and physiological features, feeding, care, handling and capturing of exotic and wild animals.
  ES3. Knowledge and application of the most common diseases in exotic and wild animals, anaesthesia methods, medication methods and routes of administration.
  ES4. Knowledge and application of the epidemiology of diseases in fish used for production.
  ES5. Knowledge and application of diagnosis, prognosis and treatment of diseases in fish used for production.
  ES6. Knowledge and application of the control and prevention of diseases in fish used for production.
  ES8. Knowledge and application of conventional procedures, genetics, production, nutrition and feeding of the most common laboratory animal species.
  ES9. Knowledge and application of experimental units, biomodels and animal research facilities.
  ES10. Knowledge and application of dental diseases in the various animal species.
  ES11. Knowledge and application of procedures to treat and prevent dental disease in the various animal species.
ES12. Knowledge and application of the study of eye disease in the various animal species, and treatment and prevention procedures.

ES13. Knowledge and application of the study of emergency situations in small and large animals, as well as treatment and intensive care to be given to each of them.

ES14. Knowledge and application of microbial flora in food, foodborne diseases and microbiological quality of food products.

The aforementioned objectives are in line with the standards laid down in:

Proposal for a European Parliament Resolution on the recognition of the professional qualifications of the veterinarian 2002/0061 (COD) (annex V.4),

• European Directive 36/2005/EC on the recognition of the degree and qualifications of veterinarian graduates.

• Organisation of health professions Act 44/2003 (BOE 22nd November 2003).

• The framework document as agreed by the Federation of Veterinarians of Europe (FVE/00/011).

• Order ECI/333/2008 of 13th February, which establishes the requirements for the recognition of official university degrees that qualify for the exercise of the profession of Veterinarian.
Basic minimum guaranteed degree skills.

Basic skills (Spanish Qualifications Framework for Higher Education, MECES):

**BS1.** Students should demonstrate knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, also includes some aspects that will be informed by knowledge at the forefront of their field of study.

**BS2.** Students should be able to apply their knowledge and understanding to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.

**BS3.** Students should have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues.

**BS4.** Students should be able to communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

**BS5.** Students should develop those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.
There are various procedures to assess the objectives of the study programme:

QUALITY MANAGEMENT SYSTEM

Responsibility for the study programme quality assurance systems.

The Universidad Alfonso X El Sabio (UAX) has had a Quality Management System (QMS) in place since the 2003/2004 academic year, pursuant to international ISO 9000 standards. The scope of the system affects all of the University's structures, services and degrees and its overarching aim is to increase student and family satisfaction by meeting expectations and finding a solution to their needs in the University.

The Quality Management System was officially recognised by AENOR, which awarded the Universidad Alfonso X El Sabio business certification ER-0916/2004 in accordance with standard UNE-EN ISO 9001:2000. This certification has been renewed annually until the present day.

UAX's administrative body has established the following general quality policy:

- Maintaining an effective and dynamic Quality Management System, which makes it possible to satisfy the needs and expectations of all interested parties, understood to be: students and their families, teaching staff, management and service staff and, in general, anyone who participates directly or indirectly in UAX activities. All actions must be oriented towards customers, i.e. students and their families.
- Carrying out all activities in a way that ensures strict compliance with national and international regulations.
- Making continuous improvement a fundamental principle that governs the operation of UAX.
- Maintaining the Quality Management System, with the highest quality level, is based on adopting a process-based approach to the activity and the ultimate aim of which is to increase customer satisfaction by meeting needs and expectations.
- All UAX staff take are fully committed to and involved in each of the activities that they perform and understand that compliance with
the quality management manual and other documentation arising from it is mandatory.

- All UAX staff have the freedom and responsibility to inform the UAX Administration Body, through the Technical Quality Unit (TQU), of any real or potential situation that they consider may jeopardise the correct functioning of the Quality Management System.

The procedures which are requested throughout Section 9 are divided among various processes, process indicators, general processes, work instructions and formats of the Universidad Alfonso X El Sabio QMS. For this reason, some of them will be summarised in the relevant points in order to facilitate the evaluator's work. Detailed information may also be found in the attached file (which is referred to on various occasions), which is made up of documents extracted from the QMS.

Detailed information regarding the body, department or people responsible for managing, coordinating and monitoring the Internal Quality Assurance System is provided in the QMS Quality Manual (QM), in which the structure of said body and its composition and decision-making mechanisms are defined.

UAX Management’s commitment to implementing, developing and monitoring the Quality Management System has been assigned to the Quality Committee (QC), which holds the authority to ensure that quality requirements are met. In addition, there is a Process Monitoring Committee (PMC), which is responsible for monitoring the system and the results obtained in the defined processes.

The tasks assigned to the Quality Committee include defining quality policies, defining quality objectives, establishing planning and prevention conditions, editing the training programme, annual audits and meetings, reviewing the Quality Management System, dissemination of the quality policy and approval of QMS documentation.

The Quality Committee is made up of permanent and temporary members. The permanent members are the president, the rector, the process owners, the director of the Data Processing Centre (DPC) and the director of the
Technical Quality Unit (TQU), who acts as secretary. Temporary members vary depending on the subject to be addressed and may include directors of studies, coordinators, teachers, students or any other external stakeholder deemed appropriate.

The tasks entrusted to the Process Monitoring Committee are implementing and following the QMS, appointing improvement or working groups, making decisions about corrective action, giving fresh impetus to quality concepts and applying new improvement techniques, monitoring compliance with the defined processes, tracking indicators, resolving conflicts that may arise among the different processes, following-up the implementation of improvement measures derived from the analysis of results obtained and informing the Quality Committee to what extent the objectives set are being met.

The Process Monitoring Committee consists of permanent members, namely the process owners and the director of the TQU, who acts as secretary, and temporary members, which vary depending on the subject to be addressed and may include directors of studies, coordinators, teachers, students or any other external stakeholder deemed appropriate.

In order to develop and improve the Quality Management System, UAX Management has taken on the following commitments:

- Compliance with current legislation.
- Continuous improvement in the customer's perception of quality, meeting agreements made with them and fulfilling their needs, in order to earn their loyalty.
- Honouring commitments made to customers.
- Putting special emphasis on continuous training of the organisation's staff.
- Involving all members of the organisation in the accomplishment of objectives.
- Meeting established quality requirements.
- Improving the implementation of the Quality Management System.
- Involving internal and external suppliers.
- Ensuring the correct functioning of the improvement committees, groups and teams.
The president is ultimately responsible for the running of the UAX and is given the necessary authority to exercise his responsibilities. He is responsible for defining and updating the quality policy and for defining and reviewing the organisation's overall quality objectives.

The director of the Technical Quality Department (TQS) is assigned the following tasks:

- Informing the Quality Committee about the functioning of the Quality Management System, including any needs for improvement.
- Liaising with any other external organisation on any subjects relating to the quality management system.
- Planning and implementing the quality policy established by the UAX Quality Committee.
- Keeping the Quality Management Manual, General Procedures and Instructions up-to-date and revising them.
- Drawing up and implementing the UAX's annual internal audit Schedule, with the aim of checking compliance with and the effectiveness of the UAX's Quality Management System.
- Proposing action required to prevent non-conformities.
- Proposing and managing action to continually improve the Quality Management System and the adoption of corrective and preventive action in response to real or potential situations that could have an adverse effect on quality.
- Monitoring and following-up on infringements.
- Taking part and providing support in the audits, which are conducted in the UAX by an external body, and following them up until the auditing body is completely satisfied.

The Director of the TQU ensures that the study programme is implemented correctly, through the relevant audits specified in the General Procedure for Internal Audits (PG04).
Procedures to guarantee the quality of external externships and mobility programmes.

The Universidad Alfonso X El Sabio has defined criteria to guarantee the quality of external externships in compliance with the requirements laid down in the QMS in the following two sub-processes: Management of in-company externships (PR0407) and the Formalisation of externships (PR040701), which are linked to the Teaching (PR04) process. These processes indicate the series of steps taken from the moment a student makes a externship request, completes the externship and is evaluated; or from the time that the Professional Guidance Office (PGO) organises a visit to a company until a framework agreement is signed with it, or from the time a company visits the University (for example as part of the University & Company Information Days) until they send a externship offer to the University.

Specific documentation is used in both sub-processes, such as:
- PGO Register of companies contacted (FPR04B).
- Externship offer letter to companies (FPR04C).
- Company details for externships (FPR04D).
- PGO conference series (FPR04E).
- Curriculum proposal for externships (FPR04F).
- Data sheet for in-company externships (FPR04I).
- Information letter for in-company externships mentor (FPR04J).
- Individual in-company externships agreement (FPR04K).
- Company evaluation questionnaire (FPR04H).
- Others.

Work instructions are also used, such as the Mentor help guide for students on externships outside the university (IT037) and the Student’s guide to in-company externships (IT018).

The aim of the first Work Instruction document is to offer guidance, in which priority is given to the procedure that the company itself has in place to help the university student to settle in and assist in their future integration into the world of work. However, this document may also apply to companies which do not have an ad hoc procedure and serve as a guide for business mentors without a lot of experience in these tasks. This Work Instruction covers the student evaluation that companies complete when students take part in
externships in their companies. This is in the form of a questionnaire that addresses the following 12 indicators and must be completed at the end of the externship: theoretical knowledge, assimilation and following of verbal instructions, assimilation and following of symbolic instructions, organisation and planning, method, neatness and cleanliness, pace of work, quality of work performed, initiative, spirit of collaboration and teamwork, attendance and punctuality and finally, personal presentation and manners. The results of these questionnaires are transferred to spreadsheets and organised by degree and Faculties/Schools.

As a guarantee of the quality of in-company externships, this Work Instruction also gives the student the opportunity to provide their opinion in the Student externship questionnaire (FPR04H), in which the following topics are analysed: activity performed, work environment, integration in the company, communication with the academic tutor, communication with the business mentor, communication with the PGO, use of knowledge acquired at the University and job satisfaction and the overall outcome.

The mechanisms, requirements and guarantees that enable a student to take part in an in-company externship are defined and specified in the second Work Instruction (IT018), and these externships may be recognised as equivalent credits. The requirements which are included in these sub-processes and Work Instructions and imposed on students and companies in order to guarantee the quality of externships include the following:

- Prior approval from the University of the host companies or institutions.
- Suitability of the in-company externships proposed as part of student training.
- Non-interference of in-company training with University teaching.
- A minimum (and maximum) duration of in-company training.
- Scheduling in relation to training goals in the company.
- The university degree held by the business mentor assigned to provide training assistance and monitoring.
- An explanatory report written by the student on the work performed.
- Evaluation of the training by the business mentor.
- Evaluation of the training by the academic tutor.
The quality of mobility programmes is covered in the UAX QMS process entitled *Office of International Relations (PR15)*. The objective of this process is performance of activities relating to student exchange programmes with foreign Universities: UAX students who take courses in a foreign University and students from foreign Universities who take courses at the UAX.

The main areas of action defined in this process will be explained below.

- With a view to the organisation's development, the University shall appoint an international academic coordinator for each degree who will assist the Office of International Relations (OIR) and work together with it, mainly taking responsibility for academic issues.

- Mobility is governed by intra-university cooperation agreements, signed between universities for the purpose of student exchanges. These mobility agreements are signed by the Director of International Relations, acting on behalf of the Rector in this area, on the basis of the Institution's international policy and strategy.

- The Office of International Relations will publish a public call for international mobility places every six months. The call will remain open for sufficient time to ensure that the entire university community is aware of it. The Office of International Relations will be responsible for publicising the call on all media available to it.

- Once the deadline for applications has passed, the OIR and the degree coordinators will start selecting candidates basing themselves on four main criteria: candidate's linguistic ability, academic record, candidate's motivation, report from the candidate's academic tutor.

- Once the time set for this stage has passed, the OIR will publish the list of candidates selected to take part in the students' mobility scheme.

- The OIR shall invite all those selected to an information meeting, in which students will receive guidance on the process of formalising the place granted. If the student wishes to reject the place offered, they must do so in writing and within the time period set.
- The student must contact their International Academic Coordinator in order to draw up their *Learning Agreement* with the foreign university. This binding contract will be signed by the international coordinator and the student and stamped and approved by the course director of studies. As a general rule, a number of 30 ECTS credits are to be completed for every four months in the host university.

- Once the student has been accepted by the host university and the courses to be taken there have been agreed upon (*Learning Agreement*), the student must finalise their enrolment at the UAX in the Office of International Relations before the start of their stay in the foreign university.

- Special examination dates will be arranged for students who cannot attend the official examinations organised by the UAX, due to being at the host university.

- Marks will be converted under the ECTS system whenever possible. If this is not possible, the OIR will establish the appropriate mechanisms to recognise marks.

The QMS also contains a series of documents related to the processes involved in student mobility, including:

- *Externship acceptance* (FPR15B).
- *Outgoing student questionnaire* (FPR15D).
- *Incoming student questionnaire* (FPR15E).
- *Erasmus/exchange student interview template* (FPR15F).
- *Academic cooperation framework agreement* (FPR15G).
- *International agreement request* (FPR15H).

The Quality Management System (QMS) of the Universidad Alfonso X El Sabio (UAX), in line with the ISO philosophy of the organisation's continuous improvement, provides for the evaluation of learning under the mobility programmes (process PR15 of the Office of International Relations) through the Quality Committee (Reviewed by Management).
The process owner (person responsible for the process) analyses and evaluates the performance of the process which concerns the degree (process follow-up protocols). The Quality Committee analyses all the processes which have a cross-cutting effect on a degree so that plans of action may be drawn up resulting in an improvement in the degree's study programme.

Procedures to analyse graduate entry into the labour market and satisfaction with the training received

The UAX Quality Management System (QMS) provides for procedures to analyse the entrance of graduates into the labour market and satisfaction with the training received in the form of two Work Instructions: Graduate Questionnaire (IT042) and Graduate Employer Questionnaire (IT047). Both Work Instructions are managed by the UAX Professional Guidance Support Office (PGO).

IT042 proposes that the University's activities are aimed at ensuring that students are able to enter the relevant professional world once they have finished their studies. The idea is that the awareness of how this integration has been achieved and the graduate's opinion of the added value that their time at the University has given them is fundamental. It states that this knowledge will provide feedback on its activities (teaching and services), with the aim of making further progress in improving the degree programmes. The graduates questionnaire is the first step taken by the University as part of the Satisfaction Indexes.

A dual objective is set in this Work Instruction: firstly, to obtain better knowledge of the evaluation of training habits, teaching and skills, all acquired or received during a student's time at university and which have helped the graduate to start and adapt their professional working life. The other essential aim is to update the graduate directory, which will be the first step towards making the graduate/university relationship closer and will make it possible to set up areas of collaboration of mutual interest. In addition, the University will also offer its services to interested graduates, informing them about news of opportunities on the graduate job list. Based on the questionnaire results, indicators will be prepared to provide the University with better awareness of its
"products", thereby satisfying Quality Agency requirements. The most positive aspect of these indicators, as previously mentioned, will be the feedback for the University itself, and the resulting measures that it implements.

The scope of the questionnaire is defined in relation to the group investigated, time and space. The group targeted by the study includes all graduates of a single degree. The reference period covers graduates from the same year group. The questionnaire covers all the University's graduates. The University Rectorate defines the survey sample and time period to be studied in each academic year.

In the second IT (IT047) it is stated that the University must seek opinions and request information from employers, to cover at least two variables. These are obtaining a better understanding of the quality and intensity of knowledge in the taught subjects that enable the graduate to develop in their professional activity and the employer's evaluation of other knowledge (languages, office automation, cultural knowledge, etc.), habits (searching for information, teamwork, study hours, etc.) and skills (order and cleanliness in their work, communicating clearly, open to others, camaraderie, etc.), which are targets of this University.

Another of the essential goals is to deepen the University's professional relationships with these employers, with the aim of opening the way for new collaborations of mutual interest (University job vacancy lists, collaboration agreements, etc.)

Based on the questionnaire results, indicators will be prepared to provide the University with better awareness of its "products", thereby satisfying Quality Agency requirements. Another positive aspect of these indicators, as previously mentioned, will be the feedback for the University itself, and the resulting measures that it implements.

The group targeted by the study defined in this Work Instruction includes all employers of graduates of a single degree. The reference period covers employers of graduates from the same year group. The questionnaire covers all the known employers of the University's graduates mentioned above. The University Rectorate defines the survey sample and time period to be studied in each academic year.
In order to facilitate the processes mentioned above, the QMS enables graduate tracking using the *Graduate form (FPR07F)*. This form contains current employment and personal details. The form is updated online, via the UAX Employment Portal, and graduates are reminded twice a year by email to update their details if they have changed.

The Quality Management System (QMS) of the Universidad Alfonso X El Sabio (UAX), in line with the ISO philosophy of the organisation's continuous improvement, provides for the evaluation of learning in the external externships (process PR0407, in-company externships management) through the Quality Committee (Reviewed by Management).

The process owner (person responsible for the process) analyses and evaluates the performance of the process which concerns the degree (process follow-up protocols). The Quality Committee analyses all the processes which have a cross-cutting effect on a degree so that plans of action may be drawn up resulting in an improvement in the degree's study programme.

**Procedures to analyse satisfaction among the various stakeholders and processing of suggestions or complaints. Specific criteria in the case of the abolition of a degree**

Royal Decree 1393/2007 and Section 9.5 of the *Support Guide* prepared by ANECA state that stakeholders for whom satisfaction analysis procedures should be put into place are: students, academic staff and management and service staff.

The UAX Quality Management System analyses the overall satisfaction of all stakeholders of the service provided by the University via the Student and Family Assistance Service (University Ombudsman) by implementing the *Customer Satisfaction Management* process (PR22). The aim of this process is to manage complaints, grievances and suggestions from customers (students and families), measure and promote the improvement of their satisfaction, conduct satisfaction surveys among students, families and residents, analyse satisfaction results and implement improvement measures. This process comprises two sub-processes: *Complaints and Appeals Management (PR2201)* and *Conducting Customer Surveys (PR2202)*. The first sub-process outlines the
steps to follow from the moment a complaint, appeal or suggestion is received, in person or online, in an established format (FPR22A) until an improvement proposal is generated. The path taken from the time the Quality Committee defines a questionnaire until the data is analysed (in the QC) and improvement actions are taken is established in the second sub-process. This survey is performed by an external market research company and, among other variables, analyses satisfaction with academic matters, satisfaction with library services, satisfaction with the dining-room and cafeteria service, satisfaction with the administrative services, satisfaction with facilities and an overall evaluation.

Although it has already been stated in Paragraph 9.2, within the evaluation and improvement of the quality of teaching and teaching staff, the Regular teaching staff questionnaire procedure (FPR04T) as a feedback mechanism aimed at improving the teaching staff is also viewed as a tool for measuring student satisfaction with regard to interest in the subject, its relevance, the use of support material, the teacher's punctuality, the ability to convey knowledge, the method followed, etc. Finally, it should be highlighted that this type of survey is conducted for each of the subjects in each degree.

The QMS contains three mechanisms used to analyse satisfaction among teaching, management and service staff. The first is the complaints and suggestions (anonymous or otherwise) "box" which enables University Management to be aware of the level of satisfaction among academic, management and service staff with a particular aspect of a degree (teaching, employment, training, research, mobility, etc.). Secondly, the Evaluation meetings organisation (PR040302) procedure, which is part of the Teaching (PR04) process, serves as a source of information to discover and analyse satisfaction among these groups regarding exclusively academic matters and a channel through which to transmit information to the Quality Committee. As the title of the process suggests, any suggestions and/or complaints that both teachers and management or service staff wish to make are included in the minutes of the Evaluation meeting (FPR04AA).

Finally, the third mechanism is defined in strategic process PR08 (Management), which, as part of the management review, makes a provision for
analysing satisfaction levels (with any aspect: teaching, employment, training, research, mobility, etc.) among Academic and Management and Support staff that take part in any of UAX processes. The information is reflected in the relevant process follow-up protocols and is analysed in the Quality Committee for decision-making purposes.

It should be highlighted that the Universidad Alfonso X El Sabio is currently in the process of implementing a total quality management and excellence model based on EFQM criteria. This management model will be in operation throughout the 08/09 academic year and will help us to strategically design improvement activities focused particularly on increasing the level of satisfaction among students, academic, management and service staff of any degree programme.

In relation to this specific objective, it is envisaged that, as part of the implementation of the EFQM model, regular surveys will be delivered to teachers and management and service stuff involved in each of the degree programmes as an additional tool to improve knowledge about and subsequently analyse satisfaction levels among these groups and, as is the case with the current ISO system, incorporate the results obtained into improvement actions proposed by the Quality Committee.

The University's QMS already provides for the publication of information about study programmes and incoming and outgoing student profiles, which is implemented by publishing these details on the relevant University web pages containing information about the degree programmes currently on offer. For the same reason, this information will continue to be publicly available, through the same platform, once the new degrees requested are launched.

With regard to the results, there is also a provision in the UAX QMS for publishing information relating to graduation rates, efficiency rates, average duration of studies, percentage of students on externships, percentage of international mobility students and graduates' employability. This information is currently available to future students and families that attend University promotion events (Promotional Saturday events management IT006 of the QMS). All this information about results will soon be made public on the University website.
The proposed criteria for interrupting the teaching of degree courses are as follows:

- The scientific, academic or professional justification of the degree becomes obsolete.
- If less than 20% of the places offered to the new intake are filled for two consecutive academic years.
- The loss of qualifications of teachers of specific modules on the degree, affecting over 50% of the teachers assigned to them, and which is not resolved for two consecutive academic years.
- The loss or disablement of more than 70% of the material resources and services allocated to the degree and which cannot be replaced or put back into use for a period of time equal to one academic year.

The mechanisms envisaged as a viable alternative for students who are taking the courses are defined below:

- The teaching of the degree will be interrupted gradually, at a rate of one course per academic year, guaranteeing that enrolled students will receive the teaching in subjects that they are not repeating until they obtain the degree. Once each course has been phased out, four exam sessions will be scheduled in the following two academic years.
- In justified cases, the Rector, following a non-binding report prepared by the university ombudsman, may exceptionally allow there to be six exam sessions, instead of four, to be held in the following three academic years.

Once all the exam sessions have concluded, the University shall draw up, where applicable, a table of similar degrees, with specific recognition of subjects and/or courses, which may represent a viable alternative to the interrupted education programme.
STRUCTURE AND OPERATION OF THE DEGREE QUALITY ASSURANCE SYSTEM

TQU

List of people responsible for the internal quality assurance system and the group which they represent

The Technical Quality Unit (TQU) of the Faculty of Veterinary Medicine in the School of Health Sciences for the 2011-2012 academic years comprised the following members:

- Director of Studies: Fernando Vázquez Fernández
- Teaching members: Isabel Rodríguez Hurtado, Sonia Rubio Large, Verónica Salazar and David Sardón.
- Student: Ana Gómez Vítores.
- Management and Service Staff: Paloma Rey

Rules of operation and decision-making system

The rules of operation and the decision-making system applied in the 2011-2012 academic year are defined below:

- The TQU will be made up of a minimum of 4 people, and it will have representatives from all the degree stakeholders (teaching and research staff, management and service staff and students), nominated by the Faculty's Management and appointed by the Vice Rector of Quality.
- The member on the Faculty's management team or the department responsible for quality matters or the person appointed by them (Dr. Fernando Vázquez, 2011-2012 academic year) will serve as Chairman of the TQU and the representative of the management and service staff as secretary.
- The members of the TQU will receive specific training on the design and implementation of an internal quality assurance system.
- The ordinary meetings of the Unit, of which there will be at least one per semester, will be convened by the Chairman with at least 48 hours’ advance notice by means of an individual notification sent to each
TQU members, and in which the agenda will be specified and relevant documentation provided.

- The initiative to convene a meeting may be taken by the Chairman of the TQU, by 1/3 of its members or by a request from the academic authorities.

- The Secretary shall take minutes of each meeting, to which the documents addressed during the meeting will be attached. While holding the position, the Secretary must make the minutes public and ensure their safekeeping.

- Group decisions of the TQU will be taken by majority vote by those present at the meeting. The Chairman will have a deciding vote in the event that there is an equal number of a vote for and against the decision in question.

- The decisions made by the TQU will be of a non-executive nature. They will be submitted to the faculty's managers so that appropriate action may be taken.

**Frequency of meetings**

During the 2011-2012 academic year two ordinary meetings of the TQU were held, one per semester. These meetings were convened by the Chairman with 15 days' notice given by means of an individual notification sent to all members of the TQU, specifying the meeting agenda.

Minutes were taken from the meetings in which various aspects of academic organisation were discussed. These minutes are held in safekeeping by the TQU secretary.

In the event that an unplanned issue or issues arise, the president shall convene an extraordinary meeting of the commission.
1.2. COMMENTS

In your view, to what extent are the objectives achieved?
What, in your view, are the main strengths and weaknesses of the Faculty?

MAIN STRENGTHS
- **Assets.** The UAX Faculty of Veterinary Medicine is responsible for a high number of students at the University. The vast majority of these students (95%) are first-choice students and therefore vocational students, in line with the entry rules for faculties with a limited number of students in the first year.
- **Staff.** The Faculty has a young, highly qualified teaching staff with a high percentage of doctors who have been educated at national and international universities and have research experience and a strong commitment to teaching in the Faculty. It also has support staff who are necessary to guarantee the quality of practical work in the various study areas.
- **Academic Activity.** The academic activity is perfectly structured and planned from the end of the previous academic year. The more streamlined organisation of the time allocated to student's on-site work has been evaluated positively, in comparison with the previous timetable on the licentiate course with morning (theory or practical work) and afternoon sessions (practical work or theory). Students are able to condense both their theoretical and practical on-site activities into a specific and compact timetable block without any overlaps and ensuring the proper progression of their activities. The group teaching structure - theory groups of 60 students, which are split for seminars (30 students) and practical work (15 students per teacher) - has been particularly well-evaluated. Some practical activities are organised in some subjects with 5 to 10 students per teacher.
The academic planning which is organised through academic year coordinators enabled the activities included in the course plan to go ahead at the scheduled time and in the manner planned.

The introduction of external practical work in the degree programme has opened up the possibility of conducting activities outside the campus while taking full advantage of the agreements made in various fields.

- **Tutorials.** Tutorial programmes at the University are organised through the Psychopedagogical Office.

  The Psychopedagogical and Guidance Office is open to students to provide them with personalised support and offer them pedagogical and psychological guidance. Taking into consideration the uniqueness of each one of the students, appropriate guidance is provided to help them to achieve good academic performance.

  Furthermore, if a student presents signs of personal difficulty, the department identifies problems and offers guidance so that the student may be put in contact with the appropriate professionals, if necessary.

  The department also informs students of the results of entry tests, processes requests for a change of tutor, runs study techniques courses and courses on how to achieve success in evaluation tests.

  Finally, and where necessary, the department is responsible for requesting a change of degree course for a student after holding a personal interview with them.

  The student and family care and assistance service assists each student or group of students in those aspects of University life in which an initiative may be taken, a discrepancy may arise or clarification may be required.

  Students may submit their complaints and try to find solutions in line with the UAX criteria of justice, fairness and in accordance with regulations. It also helps parents of students that have requested assistance, by providing them with suitable information and guidance, receiving any suggestions, doubts, problems, clarifications, etc. that they may have or require.

  Guidance in the learning process is the overriding objective for the first few years, while all matters regarding the development and implementation of the professional project is the ultimate objective in the final years of study.
The Faculty has committees which work to improve the quality of teaching and others that focus on research, construction work and infrastructure, professional issues and more. In addition, it is sufficiently well-equipped with facilities and resources to provide quality education (Veterinary Teaching Hospital, teaching farm, anatomy museum, dissection and necropsy rooms) as part of the general services offered by the University, which include laboratories and workshops, the general library, sports facilities, accommodation for the university community and catering services.

- **Virtual campus.** Students can access the virtual campus, where teaching staff make teaching material available, via the internet, which students can use in computer rooms or on their laptops.

- **Research.** The majority of the teaching staff are working on initial research projects, in various areas of the profession, due to them being in the early stages of their academic careers. The Faculty currently delivers doctorate programmes and takes part in various Master's programmes in collaboration with teaching staff from other national and international universities. It also offers European diplomas.

- **Location.** The Faculty is very close to the capital, Madrid.

- **External Relations and student exchanges.** In recent years there has been spectacular growth in the number of student exchanges under national and international programmes, with the number rising from 3 or 4 outgoing students and no incoming students arriving to more than 25, both outgoing and incoming students, in the last few academic years.
WEAKNESSES
- Greater motivation in research programmes and consolidation of groups and lines of research. Justified by the short time that the Faculty has been in existence.
- Expand the academic training on offer through courses, national and international exchanges by teaching staff.
- Increase the number of graduates in hospital fields.
- Increase the number of ANECA- accredited teachers.
- Increase postgraduate course choices.
- Improve infrastructure for conducting practical activities.
2. CHAPTER 2. ORGANISATION

2.1. FACTUAL INFORMATION

FACULTY DETAILS

Name of the Faculty: FACULTY OF VETERINARY MEDICINE.

Address: Av. de la Universidad nº 1
Telephone: +918109990.
Fax: +918109990
Website: http://www.uax.es/

Position and name of the head of the university centre:
Prof, Director of Studies. Dr. Fernando Vázquez Fernández

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

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

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

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

Indicate the rules governing the appointment of people to the centre's official posts (dean, vice-dean, heads of department, etc.)

Figure 1- Administrative structures in Spain
Universidad Alfonso X el Sabio is a private institution which is organisationally placed under the Spanish Ministry of Education and Culture and the Board of Education and Culture of the Regional Government of the Autonomous Community of Madrid. The Ministry lays down General Guidelines for all the qualifications recognised in the Catalogue of Official Degrees and defines the general policy lines of Higher Education in Spain.

UAX UNIVERSITY FACULTIES AND SCHOOLS.

- Academic centres.
- Healthcare centres.
- Technology centres.
- UAX experimental farm.
- Services and facilities.
- Villanueva de la Cañada campus.
- Madrid Chamartín campus.

School of Technical Studies

It houses all courses related to Civil, Industrial, Telecommunications, Aeronautics and Computing Engineering, as well as Architecture, Building and Environment degrees. The academic programmes, focused on practical training, enable students to obtain practical experience from the very first day, completing their training in companies related to their professional sectors.

School of Health Sciences

Covers all Health Sciences-related degree courses. The UAX has also created its own health centres, where students obtain practical experience with patients, providing a first-class clinical service. These facilities have enhanced the university’s teaching and research activities, making it one of the leading schools in Europe. The UAX has externship agreements with public and private hospitals, clinics and health centres, where students perform practical work during clinical externships.
School of Social Studies

Designed for students interested in teaching, communication, finance, law, marketing or the tourist industry. The UAX School of Social Studies provides the training, management, guidance and communication needed in today's society, teaching tomorrow’s professionals and providing them with the best material and human resources.

School of Applied Languages

Designed to satisfy the needs derived from globalisation with regards to communication between countries, cultures, businesses and individuals. The school offers the latest trends and new technologies associated with Translation and Interpreting, Modern Languages and Modern Languages related to Business Management. These degree courses help students to hone their linguistic skills and be ready to subsequently join the labour market.
Healthcare Centres

The UAX’s Dental Innovation and Advanced Specialisations Centre was inaugurated in 2013. Located in the vicinity of the current University Dental Clinic and opposite the UAX’s University Outpatient Clinic, it was designed as a comprehensive clinic. Its modern design and cutting-edge equipment helps it to offer Spain a new type of dental care, based on European protocols and supervised by doctors and teaching staff from the University Alfonso X El Sabio. The New Dental Clinic is able to offer diagnoses, treatments and the latest techniques, coordinate multi-disciplinary dental treatments, all in the hands of Europe's top professionals.
The UAX University Dental Clinic is the first healthcare centre established by the Universidad Alfonso X el Sabio. Located in the San Blas area of Madrid, it opened its doors in 2000 with a dual objective: to be a leading dental care centre in Spain and to enable Dentistry students at the Universidad Alfonso X el Sabio to complete more comprehensive practical work as part of their bachelor's and postgraduate degrees.

Its initial objectives have been surpassed in the years it has been in operation. Over 100,000 patients in all areas of dental specialisation have been treated and groups of students from 12 academic years have successfully completed their practical-clinical training, acquiring the necessary skills and successfully entering the labour market.

This clinic is located in a 4-storey building with over 3,500 m² of modern facilities, 73 dental offices equipped with the latest technology for diagnosis and treatment of dental conditions, which make it possible to treat 800 patients every day. Each year 10,000 new patients start their treatment at this clinic.
Picture 3 - Veterinary Teaching Hospital

Housed in a cutting-edge building of over 7,000 m², the Veterinary Teaching Hospital of the Universidad Alfonso X el Sabio, which is housed in a cutting-edge building of over 7,000 m², opened in 2006 with a dual role of supporting teaching and research and providing a prestigious clinical service. On a teaching level, the Hospital provides veterinary students high-quality practical training, offering them the chance to take part in medical-clinical activities.

With regard to veterinary care, it is a leading centre and a source of information for the advancement of veterinary sciences.

Picture 4 - Alfonso X el Sabio University Outpatient Clinic

The Alfonso X el Sabio University Outpatient Clinic was the second healthcare centre established by the Universidad Alfonso X el Sabio. A few metres away from the University Dental Clinic, its 6-storey building was designed to offer the Madrid with rehabilitation, physiotherapy, chiropody, occupational therapy and nutritional outpatient services of the highest quality.
The Outpatient Clinic has always been equipped with the most innovative medical resources for the proper diagnosis and treatment of diseases. It consists of 2,000 m² of modern facilities divided into independent treatment units run by renowned professionals and teachers from the UAX.

This care centre also plays a major teaching role. Physiotherapy, chiropody and occupational therapy students complete a large amount of their practical work and clinical externships in its facilities, where they are mentored by professionals from the Outpatient clinic who convey their knowledge and experiences with patients to them.

The dual role played by the healthcare staff at the Alfonso X el Sabio University Outpatient Clinic enables students to acquire the skills and practical experience that they require to successfully enter the world of work and also means that patients are cared for using the most innovative prevention and treatment techniques.

Technology centres - UAX Foundation

Since its creation, the Fundación Universidad Alfonso X El Sabio (FUAX) has worked to implement its ideology, which is the promotion of scientific, cultural and social interest activities, which clearly support and complement all the other aspects of the University, particularly its teaching role.

During this time, the Foundation has provided financial and administrative support to research teams made up of teaching staff from the University and has granted economic grants for research mobility.
CEDIANT

Since 2001, Banesto and the Universidad Alfonso X el Sabio have offered students their first job on the university campus itself. The Centre for the Development, Innovation and Application of New Technologies (CEDIANT) offers them the University's first private initiative with a purely business focus: specialised training and work in a university setting.

EXPERIMENTAL FARM

In 2012 Universidad Alfonso X el Sabio’s Faculty of Veterinary Medicine set up the new Experimental Farm in Navas del Rey. Veterinary students perform practical farming work with wild animals and practical animal production work. The Experimental Farm is an educational space with an area of 8 hectares and comprises a wild species recovery centre, a wildlife care department and a lagoon birds observatory.

The centre benefits from a multi-disciplinary team comprising doctors and veterinary medicine teaching staff from the UAX, biologists, environmental trainers, natural scientists and fauna care professionals.

FACULTIES - UNIVERSITY CENTRES - POSTGRADUATE CENTRES

- School of Technical Studies 41
- School of Health Sciences 18
- School of Social Studies 16
- School of Pharmacy 2
- School of Applied Languages 4
- Faculty of Veterinary Medicine 2
- Other university campuses
- Villanueva de la Cañada Campus
- Madrid-Chamartín Campus

Facts and figures:
- Number of faculties - centres: 6.
- Number of degrees offered: 83.
- Total number of students: 9538.
- Total number of doctorate students: 240.
- Number of students on an exchange programme: 335 (2012/2013 academic year data).
- No. of students on a externship in a company 440 (2012/2013 academic year data).

Organisation chart of governing bodies:
The University's governing bodies are:
- the Administration Body;
- the Governing Board;
- the University Senate;
- the Academic Committee;
- the Academic Commission;
- the Postgraduate Committee;
- the Doctorate Committee.

Single-person bodies:
- president of the University's Administration Body;
- vice president of this body, where applicable;
- the rector;
- the managing director;
- the vice rectors;
- the general secretary;
- the human resources director;
• the director of the technical quality unit;
• the university ombudsman.

Other single-person bodies:
• the faculty deans and heads of schools;
• the vice deans and vice heads of schools, where applicable;
• the directors of studies;
• the directors of Institutes;
• the director of the Technical Quality Unit;
• the director of the Professional Guidance Support and Careers Office (PGO);
• the director of the Office of International Relations.

Provide a diagram of the internal administrative structure of the Faculty (councils, committees, departments, etc.)
Describe, briefly the responsibilities, constitution and function of the main administrative bodies (councils, committees etc.)
Indicate the involvement of the veterinary profession and general public in the running of the Faculty.
Indicate the rules governing the appointment of people to the centre’s official posts (dean, vice-dean, heads of department, etc.).

Figure 2 - UAX Organizational Chart
Figure 3 – UAX Org chart
3. FINANCES

3.1. FACTUAL INFORMATION

The finances of the Universidad Alfonso X el Sabio are managed centrally, making it very difficult to provide a breakdown of income and expenditure as requested by the self-evaluation document.

3.2. EXPENDITURE

<table>
<thead>
<tr>
<th>Table 3.1.1. Annual faculty expenditure* 2013</th>
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<tbody>
<tr>
<td><strong>a) Staff</strong></td>
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<tr>
<td>a.1 Teaching staff.</td>
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<tr>
<td>a.2 Support staff.</td>
</tr>
<tr>
<td>a.3 Research staff.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td><strong>b) Operating costs</strong></td>
</tr>
<tr>
<td>b.1 Utilities</td>
</tr>
<tr>
<td>b.2 Costs specifically related to teaching</td>
</tr>
<tr>
<td>b.3 Costs specifically related to research</td>
</tr>
<tr>
<td>b.4 General operations (excluding those mentioned above)</td>
</tr>
<tr>
<td><strong>c) Equipment</strong></td>
</tr>
<tr>
<td>c.1 Teaching</td>
</tr>
<tr>
<td>c.2 Research</td>
</tr>
<tr>
<td>c.3 General equipment (or shared)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td><strong>d) Building maintenance</strong></td>
</tr>
<tr>
<td><strong>e) Total cost</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 3.1.2. Cost of veterinary training</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Direct cost to train a student.</td>
</tr>
<tr>
<td>2. Annual direct cost of training a student to gain a diploma.</td>
</tr>
</tbody>
</table>
3.3. SOURCES OF INCOME

Table 3.2.1. Institution’s annual income 2004

<table>
<thead>
<tr>
<th>Sources of Income</th>
<th>Euros</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Income from the State or Public authorities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Income from private bodies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Research income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Income earned and retained by the faculty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.1. Student enrolment fees</td>
<td>10,324,237.80</td>
<td></td>
</tr>
<tr>
<td>d.2 Income from postgraduate training</td>
<td>4,620</td>
<td></td>
</tr>
<tr>
<td>d.3 Income from clinical activities</td>
<td>1,023,808.87</td>
<td></td>
</tr>
<tr>
<td>d.4 Income from diagnosis activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Income from other sources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Total income from all sources</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.2.2. Changes in Public Funds

Please provide a breakdown of income from the state or public authorities (section a, table 3.2.1) in the five years preceding the self-evaluation process (in euros).

<table>
<thead>
<tr>
<th>Year</th>
<th>Euros</th>
</tr>
</thead>
</table>

What percentage of income from the following sources does the veterinary teaching Faculty have to give to other bodies (University, etc.)?
- clinical work
- business customers’ analysis
- veterinary doctors’ analysis
- research grants
- other (please explain)

Indicate what proportion of the income is retained in the faculty in each case.

Please indicate whether the students:
1. Pay enrolment fees. **Yes.**
2. How much are these fees?
3. How is the amount decided?
4. How is the money distributed?
3.4. COMMENTS

Teaching establishments never have enough finance. Please comment on any of the “Guidelines and Requirements” that are particularly difficult to fulfil in the present financial situation.

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

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

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

Universidad Alfonso X el Sabio is a private company and as such it is run entirely with its own funds.

3.5. SUGGESTIONS

If you are not satisfied with the situation, please compile a list of suggestions in order of importance.
4. CURRICULUM

Title.

- Name of degree

Degree in Veterinary Medicine awarded by the Universidad Alfonso X El Sabio

Requesting university and faculty, department or institute in charge of the programme

- University
  
  Alfonso X el Sabio

- Faculty/School
  
  Faculty of Veterinary Medicine

Type of learning.

- Type of learning
  
  In-person

Number of admissions

- Number of new admissions

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010/2011</td>
<td>120</td>
</tr>
<tr>
<td>2011/2012</td>
<td>120</td>
</tr>
<tr>
<td>2012/2013</td>
<td>120</td>
</tr>
<tr>
<td>2013/2014</td>
<td>120</td>
</tr>
<tr>
<td>2014/2015</td>
<td>120</td>
</tr>
</tbody>
</table>

Table 1- Number of new admissions
Number of credits and enrolment requirements.

- Number of credits that the degree is worth
  300

- Minimum number of European enrolment credits
  60

With the aim of meeting special educational needs and responding to situations which justify taking the degree in Veterinary Medicine on a part-time basis, the University will exceptionally allow enrolment in a lower number of credits after assessing the specific circumstances of each student and without prejudice to the minimum number of credits required for the right to enrol.

- Rules on continuation of studies

According to Article 64 of the Rules of Organisation and Operation of the Universidad Alfonso X El Sabio, approved by Madrid Regional Government by the Decree of the Government Council 29/2005 of 24th February, enacting the rules of organisation and operation of the Universidad Alfonso X El Sabio, the rules on the continuation of studies for students are:

A) Students may be excluded and deregistered from the University for poor academic performance. The Universidad Alfonso X El Sabio will not allow students to re-enrol when, under the conditions indicated below, their academic performance does not reach the minimum level required. The minimum academic performance level is deemed to have been reached if the following conditions are met:

a) For students enrolled for the first time at the University, when, after three full academic years have passed, they have passed at least 30% of the credits corresponding to the first year.

b) For students who have passed at least 30% of the credits corresponding to the first year, if, every two subsequent years, they accumulate an additional 10% of new credits from the total number in the degree.
B) Students may be de-registered if they are not up to date with their financial obligations, if, having made a request to them or their financial guardians, they have not proved that they are up to date with payments within fifteen calendar days.

C) Students may be excluded and de-registered from the University if they are expelled from the University. According to the Rules of Organisation and Operation and the Regulations Governing Academic Discipline of the Universidad Alfonso X El Sabio, students may be excluded and de-registered by being expelled from the University, as a consequence of disciplinary proceedings that the relevant dean or director of the School of Technical Studies must manage, and who may delegate to the relevant director of studies, and with the procedures and in the manner determined by regulation. The following constitute grounds for expulsion following disciplinary proceedings:

a) Verbal or other aggression towards another member of the university community, whether teaching staff or otherwise.

b) Serious lack of respect towards teachers, students, management, employees and staff from subcontractors.

c) Repeated mild disrespect.

d) Repeated non-attendance at class, after receiving a warning.

e) Committing any criminal offence that constitutes a crime or offence towards any other member of the university community, against the property and rights of the university or people, things and rights belonging to subcontractors.

f) Any intentional crime committed outside the University.

g) Any other type of behaviour that is considered to be a very serious offence in accordance with the University's Academic Discipline Regulation.
Additional information for the issuance of the European Diploma Supplement

- **Branch of knowledge**
  
  Health Sciences

- **Type of Institution**
  
  Private

- **Type of University Faculty**
  
  Internal

- **Professions which the degree qualifies the recipient for**
  
  Qualifies for the profession of Veterinarian

- **Language(s) used throughout the training process**
  
  Spanish and English

**Justification**

**The proposed degree's academic, scientific or professional interest**

The Kahun Papyri which are dated to around the year 1800 B.C. are documents which prove the existence of veterinary medicine in Ancient Egypt. They describe diseases suffered by and treatments given to both livestock and companion animals.

A large number of codes, works and treaties containing teachings on veterinary medicine are found in all cultures from ancient times to the present day.

The first veterinary school was founded in Lyon in 1764. Similar institutes started to appear soon after its creation in various European cities. In Spain, the Veterinary School of Madrid was inaugurated in 1792.
From its inception, as university studies in the late 18\textsuperscript{th} century, the veterinary profession has always been connected to rural and military environments. Veterinarian were professionals whose work focused on tending to cavalry and, to a lesser extent, to production animals or animals for slaughter.

At the same time and since the first laws that refer to slaughterhouses and wholesale markets were enacted at the beginning of the previous century, the veterinarian became one of the fundamental pillars of the public health structure, as responsibility for food safety inspection lay with this profession.

Accordingly, animal medicine, animal production and profitability and safety ensured through proper inspection of food products have become the tasks handled by the veterinary profession. This is all reflected in the successive study programmes of Spanish Veterinary schools and faculties.

Veterinarian multi-disciplinary training has defined their contribution to scientific development in different branches of science (population medicine, immunology, biosafety, pathology, reproduction, medical and surgical specialisations, the health of the agro-ecological system, food and many others). It is also worth highlighting their extensive involvement in the development of the University and of the Spanish National Research Council.

The Universidad Alfonso X El Sabio has been offering the Veterinary Medicine Degree since 2002, the syllabus of which is outlined in Official State Gazette (BOE) 256 of 25/10/2002.

The first regulation on healthcare professionals in Spain was introduced in Spain in the mid-19th Century, in the form of the Regulation on Sub-Delegations of Health in the Kingdom, of 24\textsuperscript{th} July 1848, which already established that the practice of Medical, Pharmaceutical and Veterinary professions was included in the Health sector.

In Article 2.2.a) of the law currently in force (Law 44/2003) on the Organisation of Health Professions, Graduates in Veterinary Medicine are recognised as being included in a health profession at the "post-graduate level", entrusting them with the control of hygiene and technology in production and the preparation of food products of animal origin, as well as the prevention and fight of animal diseases, particularly zoonotic diseases, and the development of
techniques required to prevent risks posed to man by animal life and diseases (article 6.2d).

In Spain, training as a veterinarian, which qualifies an individual to practise the professional activities referred to in Article 6.2.d) of the Organisation of Health Professions Act no. 44/2003 of 21st November, leads to the award of the Licentiate Degree in Veterinary Medicine, established by Royal Decree 1384/1991 of 30th August, or the award of the BSc-equivalent Degree, established in accordance with the provisions of Order ECI/333/2008 of 13th February, in line with the conditions of the Council of Ministers Agreement of 14th December 2007.

Current legislation establishes the profession of Veterinarian as a regulated profession requiring a relevant official Degree in order to practise, in accordance with the provisions of Article 12.9 of Royal Decree 1393/2007, which establishes the organisation of official university courses.

Order ECI/333/2008 of 13th February and 3rd July establishes the requirements for the recognition of official university degrees that qualify for the exercise of the profession of Veterinarian.

In Article 51 in Section 5 of Royal Decree 1837/2008 (transposing Directive 36/2005/EC) on guidelines for regulated professions, the basic standards for training in the field of Veterinary Medicine in the European Union are laid down, specifying:

- The conditions required to obtain the veterinarian diploma, university degree or certificate in terms of knowledge and the duration of the training course.

- The activities which could be performed by the holders of the veterinarian diploma, university degree or certificate. It also approves the mutual recognition of diplomas, certificates and other degrees in veterinary medicine and contains provisions aimed at facilitating the effective exercise of the right of establishment.

A minimum of five years for studies in veterinary medicine are established, during which the following must be acquired:

a) adequate knowledge of the sciences on which the activities of veterinary practice are based;
b) adequate knowledge of the structure and functions of healthy animals, of their husbandry, reproduction and hygiene in general, as well as their feeding, including the technology involved in the manufacture and preservation of foods corresponding to their needs;

c) adequate knowledge of the behaviour and protection of animals;

d) adequate knowledge of the causes, nature, course, effects, diagnosis and treatment of the diseases of animals, whether considered individually or in groups, including a special knowledge of the diseases which may be transmitted to humans;

e) adequate knowledge of preventive medicine;

f) adequate knowledge of the hygiene and technology involved in the production, manufacturing and putting into circulation of animal food products or food products of animal origin intended for human consumption;

g) adequate knowledge of the laws, regulations and administrative provisions relating to the subjects listed above;

h) adequate clinical and other practical experience under appropriate supervision.

The aforementioned Royal Decree contains the recognised degrees listed below with the country in which they are awarded and the reference date:


- Czech Republic: Czech Republic: Diplom o ukončení studia ve studijním programu veterinární lékařství (doktor veterinární medicíny, MVDr.), 1st May 2004.


Germany: Zeugnis über das Ergebnis des Dritten Abschnitts der Tierärztlichen Prüfung und das Gesamtergebnis der Tierärztlichen Prüfung Der Vorsitzende des Prüfungsausschusses für die Tierärztliche Prüfung einer Universität oder Hochschule, 21st December 1980.

Holland: Getuigschrift van met goed gevolg afgelegd diergeneeskundig/veeartsen- nijkundig, 21st December 1980.

Ireland: Bachelor of Veterinary Medicine (MVB) 21st December 1980.

Italy: Diploma di laurea in medicina veterinaria Università Diploma di abilitazione all'esercizio della medicina veterinaria, 1st January 1985.


Poland: Dyplom lekarza weterynarii, 1st May 2004.

Portugal: Carta de curso de licenciatura em medicina veterinária Universidade, 1st January 1986.

Slovakia: Vysokoškolský diplom o udelení akademického titulu "doktor veterinárskej medicíny" ("MVDr.") Univerzita veterinárskeho lekárstva, 1st May 2004.

Slovenia: Diploma, skatero se podeljuje strokovni naslov "doktor veterinarske medicine/doktorica veterinarske medicine", 1st May 2004.


- United Kingdom: Bachelor of Veterinary Science (BVSc), 21st December 1980.

Authorities outside the proposing University which endorse the appropriateness of the proposed degree

The most important national reference body is the Spanish Conference of Deans of Veterinary Medicine Faculties, which includes all of the Spanish Veterinary Medicine faculties.

The Conference of Deans developed the *White Paper of the Bachelor's Degree in Veterinary Medicine*, funded by ANECA; a full consensus was reached on this project, in which the Universidad Alfonso X El Sabio was represented by the Director of Studies of the Faculty of Veterinary Medicine.

This degree proposal follows the *White Paper* (http://www.aneca.es/activin/docs/libroblanco_jun05_veterinaria.pdf), which refers to the weighting of subjects, percentage of elective courses etc.

The General Council of Spanish Veterinary Associations, another important national reference body, was an essential partner in the preparation of the *White Paper*; the Chairman of the Council, Juan José Badiola is also a strong supporter of this proposal.

Finally, on a national level, employers of veterinary professionals played an active role, and mention of their collaboration must therefore be made.

According to studies on career opportunities for recent graduates, published in the *White Paper of the Bachelor's Degree in Veterinary Medicine* (2005), the highest proportion of jobs (76.5%) are concentrated in the clinical field (44.8% of the survey sample), livestock (13.9%), animal health (9.9%) and public health (7.9%). According to data published in the same study, employment among graduates is mainly distributed among the following areas: public administration (27.8%), pet clinics (26.1%) and livestock (9.4%). For this reason, the main objectives must be oriented towards training for these professional profiles.
Planning of studies

Structure of studies

- Number of ECTS credits allocated to each part of the Curriculum

<table>
<thead>
<tr>
<th>TYPE OF SUBJECT</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic training</td>
<td>60</td>
</tr>
<tr>
<td>Mandatory</td>
<td>204</td>
</tr>
<tr>
<td>Elective</td>
<td>6</td>
</tr>
<tr>
<td>External externships</td>
<td>24</td>
</tr>
<tr>
<td>Final year project</td>
<td>6</td>
</tr>
<tr>
<td><strong>TOTAL CREDITS</strong></td>
<td><strong>300</strong></td>
</tr>
</tbody>
</table>

*Table 2 - Number of ECTS credits allocated to each part of the Curriculum*

<table>
<thead>
<tr>
<th>MODULES</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common basic training</td>
<td>105</td>
</tr>
<tr>
<td>Clinical Sciences and Animal Health</td>
<td>105</td>
</tr>
<tr>
<td>Animal production</td>
<td>30</td>
</tr>
<tr>
<td>Hygiene, technology and food safety</td>
<td>24</td>
</tr>
<tr>
<td>Elective</td>
<td>6</td>
</tr>
<tr>
<td>Supervised externships</td>
<td>24</td>
</tr>
<tr>
<td>Final year project</td>
<td>6</td>
</tr>
<tr>
<td><strong>TOTAL CREDITS</strong></td>
<td><strong>300</strong></td>
</tr>
</tbody>
</table>

*Table 3 - Number of ECTS credits allocated to each part of the Curriculum*

- General explanation of the Curriculum planning

The curriculum for the Degree in Veterinary Medicine at the Universidad Alfonso X El Sabio structures training according to the guidelines laid down in Royal Decree 1393/2007 of 29th October, which establishes the organisation of official university education (chapter 3, article 12).

The entire degree programme is organised into modules, each of which is allocated a series of skills and knowledge that must be acquired. The high level of mandatory components is intended to provide the student with a foundation of skills and knowledge that are considered to be a basic requirement for veterinarians, and in order to achieve this, the programme
follows the specifications of the relevant Ministerial Order and Royal Decree 1837/2008, which lay down the requirements that this degree must satisfy, in order to qualify an individual for the exercise of a regulated profession, in this case that of veterinarian.

1. **Common basic training: 105 ECTS**

   Contains basic subjects from different branches, which enable students to acquire sufficient knowledge of the sciences on which the works of veterinarians are based.

   As it is planned for the first half of the study programme, this facilitates student mobility, particularly between similar degree programmes.

   The 105 ECTS credits are divided as follows:

   - 60 credits are allocated to basic subjects and divided among the knowledge areas outlined in Appendix II to Royal Decree 1393/2007 (48 ECTS allocated to basic subjects in the Health Sciences field and 12 to basic subjects in other knowledge areas);

   - the 45 ECTS which complete the common basic training are allocated to subjects which are essential for the acquisition of the skills defined as basic by the technical specifications of studies in Veterinary Medicine (Order ECI/333/2008).

2. **Clinical sciences and animal health: 105 ECTS**

   Covers knowledge that will enable students to diagnose, provide a prognosis for, treat and prevent diseases which affect domestic and/or production, experimental, exotic and wild animals. Also includes all medical studies focusing on individual and group health, such as health control and prevention of zoonotic diseases. This component also covers health policy design and animal reproduction.

3. **Animal Production: 30 ECTS**

   Covers knowledge for breeding and ensuring production animals' welfare, in relation to the different aspects of control, handling, management
and livestock advice. It also includes the study of companies engaged in the production of food supplies and the use of land, ocean and river resources of animal origin, controlling the environmental impact of animal production and of all those aspects related to obtaining livestock products intended for human consumption. Studies on nutrition, preparation of animal feed and all the financial implications that these processes may have are also addressed.

4. **Hygiene, technology and food safety: 24 ECTS**

Covers the knowledge required to control the food production chain, envisioned as a continuous process from primary production until food is supplied to the consumer, thereby ensuring traceability. Advice for companies or food establishments, implementing good manufacturing and food-handling practices, self-monitoring programmes and training of handling staff are also covered. This section also includes the control of imports of animal products, fruit and vegetables or prepared food products from third countries, with the aim of preventing infections, food poisoning and zoonotic diseases, and all professional activities that guarantee the quality and safety of food products.

5. **Supervised practical work and final year project: 30 ECTS**

Pre-professional practical work in the form of independent clinical rotations and a final competency evaluation, which takes place in university veterinary hospitals, mobile clinics, farms, pilot plants, departments with equipment intended for practical teaching of the degree in veterinary medicine, as well as externships in veterinary establishments, slaughterhouses, companies and bodies outside or related to the veterinary field.

**Final Year Project:** Transversal subject which is completed in connection with various subjects. Knowledge and practical application of veterinary principles and methodologies, as well as the acquisition of the skills and competences described in the general objectives of the degree.

6. **Elective subjects: 6 ECTS**

12 credits are offered, twice the number of ECTS that the student has to take as elective credits; these credits are divided into four subjects of three credits each, with students choosing two of them depending on their professional interests.
The subjects are general and connected to the specific skills covered in the Degree in Veterinary Medicine and to its professional fields.

The five modules combined form the body of knowledge of the veterinarian profession and provide the student with comprehensive training through which they acquire all personal and professional skills that society will demand of them.

**Teaching coordination tools**

The teaching coordination tools are described in the Quality Management System implemented in the University under *Process 4* ("Teaching"). As part of this process, they are described specifically in the following Work Instructions (IT):

*IT010: Subject coordinator responsibilities.* The following responsibilities for academic issues are assigned to the subject coordinator:

- Drawing up and updating the subject programmes.
  - Establishing the general and specific objectives for the subject programmes.
  - Setting criteria and evaluation systems for the subject in line with the University's general guidelines.
- Ensuring that the theoretical and practical content of their subjects are fully respected.
  - Checking that the content is taught within the set time.
  - Checking that practical work is carried out properly, following the established schedule to ensure it is fully completed.
- Control of the teaching performance of subject teachers during the academic year.
  - Class attendance.
  - Monitoring student attendance.
- Consulting.

- Attendance at exams at the scheduled time and in the manner established.
  
  - Scheduling and oversight of final examinations.
  - Publishing grades and managing examination reviews.
  - Signing and delivering official records on time and in the manner established by the University.
  - Attendance at coordination meetings held by the director of studies.
  - Attendance at academic meetings when requested by higher University bodies.
  - The coordinator is the highest authority for the subject and must therefore:
    - identify students who are performing poorly and adapt appropriate measures, informing the Director of Studies;
    - coordinate teachers of the subject by inviting them to as many meetings as are necessary during the academic year.

**IT011: Responsibilities of the Director of Studies.** The following academic responsibilities, among others, are established:

- Suitability of the subject programmes.

- Ensuring that overlaps or gaps do not occur between study programmes which cover the same knowledge area.

- Ensuring that programmes include the evaluation system according to the University's general guidelines.

- Ensuring that the programmes are made available to students within the time limits established by the University.

- Proposing the update of elective subjects whenever appropriate.

- Proposing general updates to the study programme whenever required.

**Horizontal and vertical coordination**
Vertical and horizontal coordination for the degree in Veterinary Medicine may be described in more concrete terms as follows:

(A) HORIZONTAL COORDINATION

In each academic year, each subject coordinator contacts all the teachers delivering the course content, at least every two weeks, to comment, assess and correct, where applicable, any potential deficiencies identified in the methodology.

At least every two months, each of the subject coordinators meets with those in charge of the knowledge areas, the laboratory managers and with the director of studies to discuss future corrective action looking ahead to the next semester. Based on all of this data, each coordinator must prepare a subject record agreed upon by all of the teachers involved, which will be submitted to the director of studies. This subject record must cover the following topics (Format FPR04RI00):

- situation and evaluation of the course progress,
- programme content analysis,
- evaluation criteria,
- incidents in the subject,
- procedure for examinations, dates and review,
- proposal for revision to the programme,
- proposal for revision to the evaluation criteria,
- seminar descriptors,
- practical work descriptors,
- materials required for the course.

(B) VERTICAL COORDINATION

Meanwhile, within the scope of the degree, each area coordinator meets regularly with the director of studies to inform of and share any shortcomings identified and possible improvement measures. During the academic year, at least four plenary meetings for staff involved in the degree are held, in which the
various aspects arising from the horizontal coordination are discussed. Action on which an agreement is reached is recorded in the minutes of the Veterinary Medicine degree assessment board.

**Structure of teaching by module and subject**

The table below presents the modules listed in Ministerial Order 333/2008 and the corresponding academic year, obligatory and elective subjects, supervised externships and the final year project. In order to plan the teaching, as reflected in the table, the time allocation for learning in the various modules and thematic blocks is summarised in ECTS in accordance with the aforementioned Ministerial Order.
<table>
<thead>
<tr>
<th>Module</th>
<th>Subject</th>
<th>1&lt;sup&gt;st&lt;/sup&gt;</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt;</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt;</th>
<th>4&lt;sup&gt;th&lt;/sup&gt;</th>
<th>5&lt;sup&gt;th&lt;/sup&gt;</th>
<th>Total ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common basic training</td>
<td>Animal anatomy</td>
<td>11.5</td>
<td>11.5</td>
<td></td>
<td></td>
<td></td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Biology</td>
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</tr>
<tr>
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<td>6</td>
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<tr>
<td></td>
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<td>Computing</td>
<td>3</td>
<td>3</td>
<td></td>
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<td></td>
<td>Statistics</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Physics and chemistry for veterinarians</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Immunology and genetics</td>
<td>6</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Ethnology and business management for veterinarians</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Deontology, legal medicine and veterinary legislation</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

*Table 4 - Structure of teaching by module and subject*
Due to the course distribution, the proposed structure guarantees a gradual acquisition of the contents of the degree.

The planning and time sequencing of the subjects in the study programme ensure coordination between subjects and modules and the relation of the student's actual work to the time envisaged in the ECTS credits for each subject.

Table 4.1. General table of curriculum hours completed by each student on the Degree in Veterinary Medicine

<table>
<thead>
<tr>
<th>Year</th>
<th>A Lectures</th>
<th>B Seminars</th>
<th>C Self-directed learning</th>
<th>D Laboratory and desk based</th>
<th>E Non-clinical animal work</th>
<th>F Clinical work</th>
<th>G* Other</th>
<th>Total</th>
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<tbody>
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<td>686</td>
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<td>95</td>
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<td>178</td>
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<td>580</td>
<td>198</td>
<td>179</td>
<td>50</td>
<td>84</td>
<td>1500</td>
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<td>Fourth</td>
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<td>148</td>
<td>618</td>
<td>75</td>
<td>15</td>
<td>260</td>
<td>84</td>
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<td>Fifth</td>
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<td>74</td>
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Table 5 - General table of curriculum hours completed by each student on the Degree in Veterinary Medicine

*In-person tutorials and examinations.
- Total ECTS credits per academic year: 60. 1 ECTS = 25 hours

Table 4.2. Curriculum by academic year

FIRST YEAR

<table>
<thead>
<tr>
<th>Basic subjects</th>
<th>Theoretical training</th>
<th>Supervised practical training</th>
<th>G* Other</th>
<th>Total</th>
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<tbody>
<tr>
<td>First</td>
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<td></td>
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<tr>
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<td>30</td>
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<tr>
<td>Histology</td>
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Table 6 -Curriculum by academic year
**In-person tutorials and examinations.**

### SECOND YEAR

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<th>G * Other</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A Lectures</td>
<td>B Seminars</td>
<td>C Self-directed learning</td>
<td>D Laboratory and desk based</td>
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### THIRD YEAR

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<td>D Laboratory and desk based</td>
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*In-person tutorials and examinations.
FOURTH YEAR

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*In-person tutorials and examinations.

FIFTH YEAR

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*In-person tutorials and examinations.
4.1. ELECTIVE SUBJECTS.

6 ECTS

12 credits are offered, twice the number of ECTS required to take as elective credits. These credits are divided into four subjects of three credits each, with students choosing two of them depending on their professional interests.

The subjects are general and connected to the specific skills covered in the Degree in Veterinary Medicine and to its professional fields.

The five modules combined form the body of knowledge of the veterinarian profession and provide the student with comprehensive training that will allow them to acquire all the personal and professional skills that society will demand of them.

SKILLS

ES1. Knowledge and application of veterinary history.

ES2. Knowledge and application of specific anatomical and physiological features, feeding, care, handling and capturing of exotic and wild animals.

ES3. Knowledge and application of the most common diseases in exotic and wild animals, anaesthesia methods, medication methods and routes of administration.

ES4. Knowledge and application of the epidemiology of diseases in fish used for production.

ES5. Knowledge and application of diagnosis, prognosis and treatment of diseases in fish used for production.

ES6. Knowledge and application of the control and prevention of diseases in fish used for production.

ES7. Knowledge and application of animal testing ethics.
ES8. Knowledge and application of conventional procedures, genetics, production, nutrition and feeding of the most common laboratory animal species.

ES9. Knowledge and application of experimental units, biomodels and animal research facilities.

ES10. Knowledge and application of dental diseases in the various animal species.

ES11. Knowledge and application of procedures to treat and prevent dental disease in the various animal species.

ES12. Knowledge and application of the study of eye disease in the various animal species, and treatment and prevention procedures.

ES13. Knowledge and application of the study of emergency situations in small and large animals, as well as treatment and intensive care to be given to each of them.

ES14. Knowledge and application of microbial flora in food, foodborne diseases and microbiological quality of food products.
ELECTIVE SUBJECTS.

<table>
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<th>HISTORY OF VETERINARY MEDICINE</th>
<th>3 ECTS credits, elective</th>
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<tr>
<td>Duration and time scheduling in the study programme</td>
<td></td>
</tr>
<tr>
<td>Quarter Q6</td>
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</tbody>
</table>

Skills and Outcomes of the learning acquired by the student in this subject

### Skills

- **BS1.** Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, also includes some aspects that will be informed by knowledge at the forefront of their field of study.
- **BS2.** Students can apply their knowledge and understanding to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.
- **BS3.** Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues.
- **BS4.** Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.
- **BS5.** Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.

### Learning outcomes

1. Students know how to apply the basic knowledge on the history of veterinary medicine to the other subjects in the study programme.
2. Students have knowledge about the *veterinary activities* which took place before the birth of Veterinary Medicine as a science and a profession.
3. Students are able to work, both independently and in a team, to conduct searches for information and interpret the bibliographical sources consulted.
4. Students are able to convey the knowledge and skills acquired in any professional context.
## EXOTIC AND WILD ANIMAL MEDICINE

<table>
<thead>
<tr>
<th>3 ECTS credits, elective</th>
</tr>
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### Duration and time scheduling in the study programme

Quarter Q6

### SKILLS AND OUTCOMES OF THE LEARNING ACQUIRED BY THE STUDENT IN THIS SUBJECT

#### Skills

**BS1.** Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, also includes some aspects that will be informed by knowledge at the forefront of their field of study.

**BS2.** Students can apply their knowledge and understanding to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.

**BS3.** Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues.

**BS4.** Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

**BS5.** Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.

**ES2.** Knowledge and application of specific anatomical and physiological features, feeding, care, handling and capturing of exotic and wild animals.

**ES3.** Knowledge and application of the most common diseases in exotic and wild animals, anaesthesia methods, medication methods and routes of administration.

### Learning outcomes

1. Students have knowledge of specific anatomical and physiological features, feeding, care, handling and capturing of exotic and wild animals.

2. Students have knowledge of the most common diseases in exotic and wild animals, and knowledge of how to apply anaesthesia methods, methods of administration and administration routes.
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits, Type</th>
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<tbody>
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<td>3 ECTS, elective</td>
</tr>
</tbody>
</table>

Duration and time scheduling in the study programme

Quarter Q6

SKILLS AND OUTCOMES OF THE LEARNING ACQUIRED BY THE STUDENT IN THIS SUBJECT

Skills

BS1. Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, also includes some aspects that will be informed by knowledge at the forefront of their field of study.

BS2. Students can apply their knowledge and understanding to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.

BS3. Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues.

BS4. Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

BS5. Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.

ES4. Knowledge and application of the epidemiology of diseases in fish used for production.

ES5. Knowledge and application of diagnosis, prognosis and treatment of diseases in fish used for production.

ES6. Knowledge and application of the control and prevention of diseases in fish used for production.

Learning outcomes

1. Students understand the importance of aquaculture as a farming activity.
2. Students have knowledge of diseases caused by environmental, toxicological, nutritional and handling problems.
3. Students have knowledge of diseases caused by viruses, bacteria, fungi and parasites, including epidemiology, etiopathogeny, clinical aspects, diagnosis, treatment, prevention and control.
4. Students understand the importance of fish as transmitters of infectious and parasitic diseases and the implications on public health.
<table>
<thead>
<tr>
<th>EXPERIMENTAL ANIMALS</th>
<th>3 ECTS credits, elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration and time scheduling in the study programme</td>
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<tr>
<td>Quarter Q6</td>
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</table>

<table>
<thead>
<tr>
<th>SKILLS AND OUTCOMES OF THE LEARNING ACQUIRED BY THE STUDENT IN THIS SUBJECT</th>
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</thead>
<tbody>
<tr>
<td>Skills</td>
</tr>
<tr>
<td>BS1. Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, also includes some aspects that will be informed by knowledge at the forefront of their field of study.</td>
</tr>
<tr>
<td>BS2. Students can apply their knowledge and understanding to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.</td>
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<tr>
<td>BS3. Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues.</td>
</tr>
<tr>
<td>BS4. Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.</td>
</tr>
<tr>
<td>BS5. Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.</td>
</tr>
<tr>
<td>ES7. Knowledge and application of animal testing ethics.</td>
</tr>
<tr>
<td>ES8. Knowledge and application of conventional procedures, genetics, production, nutrition and feeding of the most common laboratory animal species.</td>
</tr>
<tr>
<td>ES9. Knowledge and application of experimental units, biomodels and animal research facilities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students are aware of the uses of experimental animals in the medical field.</td>
</tr>
<tr>
<td>2. Students are able to perform usual procedures on species that are of greater interest to animal experimentation.</td>
</tr>
<tr>
<td>3. Students have acquired the basic knowledge to manage an animal research facility well.</td>
</tr>
<tr>
<td>DENTISTRY</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>Duration and time scheduling in the study programme</td>
</tr>
<tr>
<td>Quarter Q9</td>
</tr>
<tr>
<td>SKILLS AND OUTCOMES OF THE LEARNING ACQUIRED BY THE STUDENT IN THIS SUBJECT</td>
</tr>
</tbody>
</table>

**Skills**

BS1. Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, also includes some aspects that will be informed by knowledge at the forefront of their field of study.

BS2. Students can apply their knowledge and understanding to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.

BS3. Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues.

BS4. Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

BS5. Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.

ES10. Knowledge and application of dental diseases in the various animal species.

ES11. Knowledge and application of procedures to treat and prevent dental disease in the various animal species.

**Learning outcomes**

1. Students have sufficient knowledge of oral and dental anatomy, physiology and physiopathology.
2. Students know how to properly diagnose and treat dental pathologies and pathologies in the dental cavity.
<table>
<thead>
<tr>
<th>OPHTHALMOLOGY</th>
<th>3 ECTS credits, elective</th>
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</thead>
<tbody>
<tr>
<td>Duration and time scheduling in the study programme</td>
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<tr>
<td>Quarter Q9</td>
<td></td>
</tr>
<tr>
<td><strong>SKILLS AND OUTCOMES OF THE LEARNING ACQUIRED BY THE STUDENT IN THIS SUBJECT</strong></td>
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</tr>
<tr>
<td><strong>Skills</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Learning outcomes</strong></td>
<td></td>
</tr>
<tr>
<td>1. Students have sufficient knowledge of the eye anatomy, physiology and physiopathology. 2. Students know how to properly diagnose and treat eye pathologies.</td>
<td></td>
</tr>
</tbody>
</table>
## EMERGENCIES AND INTENSIVE CARE

<table>
<thead>
<tr>
<th>Duration and time scheduling in the study programme</th>
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<tbody>
<tr>
<td>Quarter Q9</td>
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</tbody>
</table>

### SKILLS AND OUTCOMES OF THE LEARNING ACQUIRED BY THE STUDENT IN THIS SUBJECT

#### Skills

**BS1.** Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, also includes some aspects that will be informed by knowledge at the forefront of their field of study.

**BS2.** Students can apply their knowledge and understanding to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.

**BS3.** Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues.

**BS4.** Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

**BS5.** Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.

**ES13.** Knowledge and application of the study of emergency situations in small and large animals, as well as treatment and intensive care to be given to each of them.

### Learning outcomes

1. Students are able to prioritise when an emergency patient arrives.
2. Students are able to take effective decisions.
3. Students are able to inform the owner of an animal's critical condition.
4. Students are able to use all the resources available to us.
5. Students are able to identify and distinguish between a life-threatening and a non-life-threatening case.
6. Students are able to choose and direct emergency staff.
### FOOD MICROBIOLOGY

**3 ECTS credits, elective**

**Duration and time scheduling in the study programme**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Q9</th>
</tr>
</thead>
</table>

**SKILLS AND OUTCOMES OF THE LEARNING ACQUIRED BY THE STUDENT IN THIS SUBJECT**

**Skills**

- **BS1.** Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, also includes some aspects that will be informed by knowledge at the forefront of their field of study.
- **BS2.** Students can apply their knowledge and understanding to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.
- **BS3.** Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues.
- **BS4.** Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.
- **BS5.** Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.

**ES14.** Knowledge and application of microbial flora in food, foodborne diseases and microbiological quality of food products.

**Learning outcomes**

1. Students have acquired the basic knowledge to assess and control the microbiological quality of food products.
2. Students have knowledge of micro-organisms responsible for foodborne diseases, methods of isolation and identification of these micro-organisms and their toxins in food.
4.2. OBLIGATORY EXTRAMURAL WORK

Indicate the guidelines governing this activity and the way in which it is assessed.

- SUPERVISED EXTERNSHIP MODULE AND FINAL YEAR PROJECT.

SKILLS

CEP1. Pre-professional practical work in the form of independent externships and a final competency evaluation, in university veterinary hospitals, mobile clinics, farms, pilot plants, departments with equipment intended for practical teaching of the degree in veterinary medicine, as well as externships in veterinary establishments, slaughterhouses, companies and independent bodies related to the veterinary field.

CEP2. Final year project: transversal subject which is completed in connection with various subjects.

CEP3. Knowledge and practical application of veterinary principles and methodologies, as well as the acquisition of the skills and competences described in the general objectives of the degree.
SUPERVISED EXTERNSHIPS

<table>
<thead>
<tr>
<th>24 ECTS credits, obligatory</th>
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</thead>
<tbody>
<tr>
<td>Duration and time scheduling in the study programme</td>
</tr>
<tr>
<td>Quarter Q9, Q10</td>
</tr>
</tbody>
</table>

SKILLS AND OUTCOMES OF THE LEARNING ACQUIRED BY THE STUDENT IN THIS SUBJECT

Skills

BS1. Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, also includes some aspects that will be informed by knowledge at the forefront of their field of study.

BS2. Students can apply their knowledge and understanding to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.

BS3. Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues.

BS4. Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

BS5. Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.

CEP1. Pre-professional practical work in the form of independent externships rotations and a final competency evaluation, in university veterinary hospitals, mobile clinics, farms, pilot plants, departments with equipment intended for practical teaching of the degree in veterinary medicine, as well as externships in veterinary establishments, slaughterhouses, companies independent organisms related to the veterinary field.

CEP3. Knowledge and practical application of veterinary principles and methodologies, as well as the acquisition of the skills and competences described in the general objectives of the degree.
## Learning outcomes

1. Students have knowledge of and acquire skills in the control of hygiene, inspection and production technology and the preparation of food products intended for human consumption, from primary production until they reach the consumer.
2. Students have knowledge of and acquire skills in prevention, diagnosis and individual or group treatment, and the combating of animal diseases, whether considered individually or in groups, particularly zoonotic diseases.
3. Students have knowledge of and acquire skills in the control of the husbandry, handling, welfare, reproduction, protection and feeding of animals, and the improvement of their production.
4. Students have knowledge of and acquire skills in the obtaining of animal products under optimal and economically viable conditions and their environmental impact assessment.
5. Students have knowledge of and acquire skills in the implementation of legal, regulatory and administrative provisions in all areas of the veterinary profession and public health, including the ethical implications of health in a changing global context.
6. Students have knowledge of and acquire skills in the exercise of professional practice with respect for other health professionals, acquiring skills related to teamwork, with the efficient use of resources and with quality management.
7. Students have knowledge of and acquire skills in identifying emerging risks in all areas of the veterinary profession.

## System used to evaluate skills acquisition

1. Students have completed all the pre-professional practical work in the various bodies of the veterinary field.
2. Students have submitted a practical work report to the tutor on each of the rotations.
3. Students have obtained a mark equal to or higher than five points in the average of the grades obtained in all of the rotations, weighted according to the length of time spent on each of them (in relation to the CEP1 & CEP3 skills).

## Brief description of subject content

Pre-professional practical work in the form of independent externships and a final competency evaluation, in university veterinary hospitals, mobile clinics, farms, pilot plants, departments with equipment intended for practical teaching of the degree in veterinary medicine, as well as externships in veterinary establishments, slaughterhouses, companies and independent organisms related to the veterinary field.
### FINAL YEAR PROJECT

**6 ECTS credits, obligatory**

**Duration and time scheduling in the study programme**

**Quarter Q10**

### SKILLS AND OUTCOMES OF THE LEARNING ACQUIRED BY THE STUDENT IN THIS SUBJECT

**Skills**

BS1. Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, also includes some aspects that will be informed by knowledge at the forefront of their field of study.

BS2. Students can apply their knowledge and understanding to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.

BS3. Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues.

BS4. Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

BS5. Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.

**CEP2. Final Year Project: transversal subject which is completed in connection with various subjects.**

### Learning outcomes

1. Students demonstrate knowledge in the field of study.
2. Students know how to devise and defend arguments and solve problems within the field of study.
3. Students know how to interpret data and make judgements that include reflection on relevant social, scientific or ethical issues.
4. Students know how to convey information, ideas, problems and solutions to both specialised and non-specialised audiences.

### PREREQUISITES

In order to be able to defend the Final Year Project, the student must have passed all the ECTS credits in the curriculum.
System used to evaluate skills acquisition

- Oral presentation (part in English), before a panel comprising three teachers, of an original piece of work based on the student's experience on rotation (linked to skill CEP2). The project will comprise two parts:
  - The first part will contain a description of the work carried out on the various rotations, with a critical assessment of the activities. This part is written and presented in English: 40-50%.
  - In the second part, the student will present a case (clinical or otherwise) - optionally in English - structured in the form of a research piece or bibliographical review of sources gathered and used on the various rotations in the supervised externships: 50-60%.

Brief description of subject content
Completion and presentation of a project based on experience gained on the rotation.

4.3. RATIOS

| R6: Theoretical training (A+B+C) | 2034 | 1 |
| Supervised practical training (D+E+F) | 2174 | 1.07 |

| R7: Clinical Work (F) | 1026 | 1 |
| Laboratory and desk based work + non-clinical animal work (D+E) | 1148 | 1.12 |

| R8: Self directed learning (C) | 2854 | 1 |
| Teaching load (A+B+C+D+E+F+G) | 4646 | 1.63 |

4.1.6.2 SPECIAL INDICATORS OF TRAINING IN FOOD HYGIENE/PUBLIC HEALTH

| R9: Total no. curriculum hours Food Hygiene / Public Health² | 600 | 1 |
| Total no. hours vet. Curriculum¹ | 7500 | 12.5 |

| R10: Total no. curriculum hours Food Hygiene / Public Health² | 600 | 1 |
| Hours obligatory extramural work in Veterinary inspection² | 100 | 0.17 |

Origin numerators, denominators
1: Total as derived in Table 4.1
2: Total as derived in Table 4.1, Subject 5
3: Figures to be taken from Table 4.5

## 4.4. ADDITIONAL INFORMATION ABOUT THE CURRICULUM

Please provide a brief description of the teaching programme in (see table 4.1.3):

- A. Common basic training.
- B. Clinical sciences and animal health.
- C. Animal production.
- D. Hygiene, technology and food safety.
- E. Elective subjects.
- F. Supervised externships and final year project.

State the parts of the programme where attendance by the students is mandatory. How is attendance verified?

<table>
<thead>
<tr>
<th>A. Common basic training</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy (including Histology and Embryology)</td>
<td>Systematic and comparative anatomy of animal organs and systems. Basic topographic anatomy and focused on clinical, production and hygiene applications and industrialisation of food. Description of embryonic development and morphogenesis in species of veterinary interest. Embryonic manipulation and congenital abnormalities. Knowledge of the cell structure and ultrastructure, their integration in various organisational levels (epithelial, connective, muscle and nerve tissue); how these tissues blend with each other to form organs and how the latter form the various equipment and systems, such as the circulatory, respiratory, lymphatic, digestive, reproductive, nervous, endocrine and skin systems and the components dependent on them, linking their structure with their function.</td>
</tr>
</tbody>
</table>
### A. Common basic training

<table>
<thead>
<tr>
<th>Subject</th>
<th>Content</th>
</tr>
</thead>
</table>
| **Biochemistry** | Understanding of the molecular origin of the basic functions of living things.  
- Knowing how to recognise and represent the structure of the main biological molecules.  
- Knowing how to formulate and resolve basic biochemical problems.  
- Knowledge of the main catabolic and anabolic routes.  
- Integrating the various metabolic routes, assessing the existing connections between them.  
- Acquiring, developing and practising the skills necessary for laboratory work and basic biochemical instrumentation.  
- Knowing how to use the main bibliographic sources in the field of biochemistry, enabling the student to find, select and understand the information.  
- Developing experimental skills.  
- Ability to prepare, present and defend work. |
<p>| <strong>Biology (Ethology)</strong> | Acquisition of basic knowledge of animal and plant biology, with emphasis on organisms of veterinary interest. Study, from an evolutionary perspective, of the morphological and functional characteristics of the most representative animals and plants and the relationships between them. Acquisition of basic knowledge on animal behaviour, development and evolution. Acquisition of knowledge of the foundations of animal welfare and protection. |
| <strong>Physics and chemistry for veterinarians</strong> | Training of veterinarians as scientists would not be complete without basic knowledge of natural sciences. The natural phenomena that we perceive on a daily basis will be studied with an applied approach in this subject. At the end of the year, the student will have a general overview of nature and be able to explain and describe the natural processes on which life is based. With the theoretical content explained in the core classes, applied to the animal world in seminars and complementary training received in practical classes, the student will obtain essential knowledge in order to understand the content of other subjects taken on the Degree in Veterinary Medicine. |</p>
<table>
<thead>
<tr>
<th>A. Common basic training</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computing</td>
<td>Information systems, analysis, data searching etc. Document management, document layout by applying and creating templates and styles. Introduction, handling, organisation and filtering of data, types of graphs, options and features of data graphs. Creation and setting up of a complete presentation. Incorporation and handling of digital images.</td>
</tr>
<tr>
<td>Statistics</td>
<td>Establishing and consolidating the foundations of statistics needed by Veterinary Medicine degree students. The aim is for the student to assimilate statistical techniques to help them in interpreting data and/or research results. The intention is to motivate students to employ statistical analysis techniques as a useful tool to develop their professional practice.</td>
</tr>
<tr>
<td>Genetics</td>
<td>Demonstrating theoretical and practical knowledge about the genes and molecules found in the immune system. Identifying organs and cells involved in the immune response. Understanding the immune response to micro-organisms of clinical veterinary significance. Managing and analysis of specific laboratory techniques. Preparation of scientific documents on subjects and problems related to immunology and genetics. Ability to conduct research in the field of immunology and genetics. Acquisition of a unified vision of current genetics when attempting to explain the causes of similarities and differences between organisms, the problems of heredity and variation of different levels: molecular, cellular, individual and population.</td>
</tr>
</tbody>
</table>
### A. Common basic training

<table>
<thead>
<tr>
<th>Physiology</th>
<th>Content</th>
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</thead>
<tbody>
<tr>
<td>Knowledge of the function of organs and systems in the animal organism, with particular applied focus on species of veterinary interest. The specific objectives are:</td>
<td></td>
</tr>
<tr>
<td>1. Understanding the laws and scientific methods of physiology.</td>
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</tr>
<tr>
<td>2. Learning concepts and characteristics of the functioning of different systems in the animal organism.</td>
<td></td>
</tr>
<tr>
<td>3. Understanding the foundations of the process and mechanisms which regulate the vital functions.</td>
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<tr>
<td>4. Understanding the usefulness of the subject and its relationship with other subjects on the degree.</td>
<td></td>
</tr>
<tr>
<td>5. Learning to use bibliographical information available in this discipline.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Immunology</th>
<th>Content</th>
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</thead>
<tbody>
<tr>
<td>Components of the immune system, description of cells and tissues in the immune system, with particular focus on their anatomical organisation and on the relationships between structure and function. In addition, students will analyse the molecular bases of the recognition of the antigen and the specific features of the B and T lymphocytes, the structure of antibodies and the way in which these proteins recognise antigens. The subject will also cover the generation of mature lymphocytes and the responses of these lymphocytes to antigen recognition, the effector mechanisms activated during immune responses and how these mechanisms act to defend the host. Finally, students will learn about the basic mechanisms of innate and adaptive immunity in order to understand immune defences against micro-organisms and tumours, reactions to transplants and diseases caused by abnormal immune responses.</td>
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</tbody>
</table>
### A. Common basic training

<table>
<thead>
<tr>
<th>Content</th>
<th>Microbiology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphology, biochemistry, physiology, genetics, pathogenic mechanisms and taxonomy of bacteria, viruses and fungi that cause infections in animals. The programme has been designed so that students: i. understand the main principles of important micro-organisms for animal health; ii. understand the mechanisms of pathogenicity and the transmission of infectious agents and iii. are able to perform laboratory diagnoses of the main infectious agents and indicate the most suitable treatment.</td>
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<table>
<thead>
<tr>
<th>Content</th>
<th>Parasitology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquire knowledge of the morphology, taxonomy and biological cycles of the main parasites of veterinary interest. Students will learn the definition of parasitism, the types of parasites and hosts, taxonomy in parasitology, biological cycles and infection routes. They will also study protozoa, helminths and arthropods.</td>
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</table>

<table>
<thead>
<tr>
<th>Content</th>
<th>Deontology, legal medicine and veterinary legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinarians’ relations with public administrations and society in general. During the progress of the course topics such as euthanasia, informed consent, involvement in shows, doping, animal welfare and veterinary legislation governing the veterinary profession will also be covered.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Content</th>
<th>Physiopathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of the functional changes which bring about morbidity processes at the organic level. During the course, students have to learn about the etiological agents which have a tendency to cause functional disorders, their pathogenesis or mechanism of action and the physiopathological implications that they carry.</td>
<td></td>
</tr>
</tbody>
</table>
## A. Common basic training

<table>
<thead>
<tr>
<th>Content</th>
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</thead>
</table>
| Ethnology and business management | Knowledge of the different external parts of domestic animals, external morphology of domestic animals, the basis productive characteristics of each species and the racial characteristics of domestic animal species. Students will also be able to acquire knowledge about the native Spanish animal breeds, other breeds present in Spain and the most important foreign breeds. The course will also cover the productive characteristics of the different domestic animal breeds, their use in animal production and knowledge of business management of veterinary services, both in terms of clinical and production aspects.  

<p>| General Pathology | Concept of injury and distinguishing it from post-mortem change. During this subject course, students will acquire knowledge to enable them to recognise the major injury categories (dystrophies, circulation problems, inflammation, growth disorders and tumours), the etiology of the processes, morphi-pathological changes and functional changes. They will also learn about the specific morphological and pathogenic features of injuries in the various animal species, the causes of pathologies in organs and systems. |</p>
<table>
<thead>
<tr>
<th>B. Clinical sciences and animal health</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacology I</td>
<td>Knowledge of pharmacokinetics, pharmaceutical forms, the mechanism of action and effects of the main drug classes of analgesics, anti-inflammatories, etc. Students will also learn the physical, physiological and pharmacological foundations of anaesthesiology and its techniques (local, regional, general, inhalation or injection).</td>
</tr>
<tr>
<td>Pharmacology II</td>
<td>The general principles of pharmacokinetics and pharmacodynamics in the different therapeutic groups. We will learn about the mechanisms of action and pharmacological effects of the main therapeutic groups. We will study pharmacological treatment of infectious diseases in greater depth. The main drugs used to treat diseases that affect the respiratory, cardiovascular, digestive and renal systems will be presented. We will look at the study of fluid therapy in cases of water-electrolyte imbalance. We will analyse therapeutics for endocrine problems and we will explore treatment of oncological diseases in animals using chemotherapy.</td>
</tr>
<tr>
<td>Special Pathology</td>
<td>Learning about the concept of injury and distinguishing it from post-mortem change. During this subject course, students will acquire knowledge to enable them to recognise the major injury categories (dystrophies, circulation problems, inflammation, growth disorders and tumours), the etiology of the processes, morpho-pathological changes and functional changes. They will also learn about the specific morphological and pathogenic features of injuries in the various animal species, the causes of pathologies in organs and systems.</td>
</tr>
<tr>
<td><strong>B. Clinical sciences and animal health</strong></td>
<td><strong>Content</strong></td>
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<tr>
<td>------------------------------------------</td>
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</tr>
<tr>
<td>Epidemiology</td>
<td>Study of disease on a group level in animal populations. The study of epidemiology enables the veterinarian to develop some of the skills established in the training programmes, such as the ability to identify the animal's state of health and diseases, the factors which have an effect on maintaining these states, the time-space distribution of the disease on a group level, the aspects related to mathematical management and the biostatistics of the disease, as well as other medical and preventive elements related to health and promotion.</td>
</tr>
<tr>
<td>Toxicology</td>
<td>Learning about the principles for the use of the therapeutic armoury required to treat toxic diseases, both on an individual and group level. As the course progresses, students will learn how to write medical histories, protocols and reports in relation to toxic diseases in animals; they will become familiar with handling instruments and general techniques from the scientific method; they will learn to identify the toxic effects caused by exposure to various toxic substances and to develop the evaluation of said risk with a view to preventing and treating cases of poisoning.</td>
</tr>
<tr>
<td>Propaedeutics</td>
<td>Learn how to perform a complete physical examination using complementary techniques, which are essential for being able to make a correct diagnosis and to give appropriate treatment. During the course students will learn to recognise the signs and symptoms of the main syndromes, how to correctly handle animals, perform an anamnesis correctly and the basic concepts of animal behaviour.</td>
</tr>
<tr>
<td>Anaesthesiology</td>
<td>Physical, physiological and pharmacological foundations of anaesthesiology. Local, regional and general anaesthesia techniques (by injection and inhalation) in the various species of clinical interest. Foundations of anaesthetic and clinical monitoring. Basic knowledge of how the main equipments used to apply anaesthetic and resuscitation techniques work. Pain management techniques: Multimodal and preventive analgesia.</td>
</tr>
</tbody>
</table>
## B. Clinical sciences and animal health

<table>
<thead>
<tr>
<th>Content</th>
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</thead>
<tbody>
<tr>
<td><strong>Zoonotic diseases</strong></td>
</tr>
<tr>
<td>Zoonotic diseases, diseases naturally transmitted between animals and humans, are a clear example of the close relationship between public health, the environment and socioeconomic welfare. There are currently a high number of zoonotic diseases which affect the human population and many of them are present throughout the world. For this reason, the basic theoretical and practical aspects which characterise the transmission of zoonotic diseases are presented in this subject. The main current problems in relation to the emergence and re-emergence of these diseases will also be covered, with emphasis on trigger factors. Students explore strategies for studying and controlling zoonotic diseases so that they can identify their role as professionals in assisting research into, prevention and control of zoonotic diseases.</td>
</tr>
<tr>
<td><strong>Medical and nutritional pathology</strong></td>
</tr>
<tr>
<td>Medical and nutritional pathology is defined as the science which treats diseases characterised by their lack of infectivity, which affect domestic animals and are not infectious or parasitic, and which present themselves in both individuals and groups, resulting in hygiene and dietary and/or drug treatment. Practical teaching in Medical Pathology is carried out in the Veterinary Teaching Hospital, and through mobile practical work. During this work, students will take the anamnesis and patients' medical histories, perform a physical examination and issue a list of differential diagnoses, complementary tests and will draw up a treatment plan for each case.</td>
</tr>
<tr>
<td><strong>Surgical pathologies and surgery</strong></td>
</tr>
<tr>
<td>Basic principles and most important pathologies and their resolution from a surgical perspective. The subject is divided into two large parts. In the first quarter the general aspects of surgery are studied (material, sutures, healing, haemostasis etc.), and in the second quarter the focus turns to surgical procedures and specialisations (soft tissue surgery, traumatology, neurology, surgery on horses and bovine animals).</td>
</tr>
<tr>
<td>B. Clinical sciences and animal health</td>
</tr>
<tr>
<td>---------------------------------------</td>
</tr>
<tr>
<td>Parasitic diseases</td>
</tr>
<tr>
<td>Infectious diseases</td>
</tr>
<tr>
<td>Preventive medicine and health policy</td>
</tr>
<tr>
<td>Obstetrics and reproduction</td>
</tr>
<tr>
<td>Diagnostic imaging</td>
</tr>
<tr>
<td>C. Animal production</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Animal production</td>
</tr>
<tr>
<td>Breeding</td>
</tr>
<tr>
<td>Nutrition I</td>
</tr>
<tr>
<td>Animal nutrition II</td>
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</tbody>
</table>
### C. Animal production

<table>
<thead>
<tr>
<th>Content</th>
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</thead>
<tbody>
<tr>
<td>Agriculture</td>
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</tbody>
</table>

The importance of agriculture in farming as a source of raw materials used to make animal feed to give animals the nutrition they need. Students study the production foundations of agriculture and the main financial and market factors which influence the profitability of livestock units are defined and analysed. The current and future situation, in Spain and in the context of the European Union's Common Agricultural Policy, of agricultural and livestock production is also studied in production sub-sectors.

### D. Hygiene, technology and food safety

<table>
<thead>
<tr>
<th>Content</th>
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</thead>
<tbody>
<tr>
<td>Food Technology</td>
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</tbody>
</table>

The course covers the properties of the substances contained in food products, additives, the foundations of microbial food ecology, techniques for collecting and processing food and techniques to control the production process, in addition to studying the various systems used to store, package and distribute food products.

<table>
<thead>
<tr>
<th>Content</th>
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</thead>
<tbody>
<tr>
<td>Food safety</td>
</tr>
</tbody>
</table>

Hygiene and inspection of food industries and establishments. Evaluation.

<table>
<thead>
<tr>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygiene</td>
</tr>
</tbody>
</table>


### E. Supervised externships and final year project

<table>
<thead>
<tr>
<th>Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental animals</td>
</tr>
</tbody>
</table>

Study of the animal experimentation field, debates on its ethical justification, application and practical experience in the main handling principles. Students will also learn about everything related to biology and the behaviour of these animals, as well as possible changes to them.

<table>
<thead>
<tr>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of veterinary medicine</td>
</tr>
</tbody>
</table>

Study of veterinary science from the prehistoric period through the different ages until the present day.

<table>
<thead>
<tr>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ichthyopathology</td>
</tr>
</tbody>
</table>

Acquisition of the knowledge necessary to control and prevent diseases in fish used for production. Students will also acquire knowledge of diseases caused by environmental, toxicological, nutritional and handling problems; diseases caused by viruses, bacteria, fungi and parasites; and epidemiology, etiopathogeny, clinical aspects, diagnosis and treatment of fish.
<table>
<thead>
<tr>
<th>Subject</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergencies and intensive care</td>
<td>This subject studies emergency situations in veterinary medicine and the treatments and intensive care applied in each of the situations.</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>This subject studies eye diseases in the various animal species, their treatment and prevention.</td>
</tr>
<tr>
<td>Dentistry</td>
<td>This subject studies the most common dental diseases in veterinary medicine, as well as their treatment and prevention.</td>
</tr>
</tbody>
</table>
| Food microbiology                                | This subject studies:  
- Micro-organisms present in food products.
- Food safety.
- Micro-organisms which cause foodborne diseases. |
| Exotic and wild animals medicine                 | Knowledge of specific anatomical and physiological features, feeding, care, handling and capturing of exotic and wild animals. During the course students will also learn to recognise the most common diseases in exotic and wild animals, anaesthesia methods, medication methods and routes of administration. |
4.5. SPECIFIC INFORMATION ON THE PRACTICAL CLINICAL TRAINING.

Please give an outline description of how this is structured, in terms of:

- Are such rotations a structured part of the training given to all students?
- The total number of days or weeks of such rotations.
- The year(s) in which they occurred.
- The different areas covered and the time spent in each area.
- Whether attendance is full-time, for part of the day, and/or other (e.g. based on specific needs).
- The activities and responsibilities that students are expected to undertake.
- The group sizes in the clinical rotations.

Describe clinical exercises in which students are involved prior to the commencement of clinical rotations.
Outline the student involvement in the emergency (24 hours) and hospitalisation activities of the clinics.

Specify student participation in the activities of the mobile clinic and indicate whether or not the hours spent in the mobile clinic are included in those in tables 4.1.3, 4.2 or 4.3.

All undergraduate students start their practical clinical training in the first year of the degree, where training is understood as contact with animals in order to carry out their practical work.

**First year:** during the first quarter students complete 15 hours of practical work related to animal behaviour as part of the Biology module.

**Second year,** there is greater contact with animals and students carry out physiological practical work on: rabbits, birds and small ruminants. Each student completes 10 hours of practical work. Groups of 15 students. They also perform practical activities in Ethnology with different breeds, both in external establishments and in the veterinary teaching hospital. They are also in contact with animals when taking part in practical learning of the different routes for administering drugs.

**Third year,** students complete the practical work on the Animal production module: 15 hours of practical work in the farm with the group of native-breed laying hens. 20 hours of practical work at different external units (horses, sheep,
pigs, bovine animals for meat and milk). Visits to different regional livestock exhibitions also take place. When studying husbandry and animal nutrition students carry out practical work in holdings with various species.

Practical work in clinical propaedeutics. Students, in groups of 10, attend 19 hours of workshops, during which they learn to examine various species.

Pathological anatomy practical work: 45 hours of practical work involving the macroscopic study of organs and post-mortem examination in various animal species.

Practical work with experimental animals, fish and exotic and wild animals for students selecting these elective courses in 3rd year.

**Fourth year:** practical work starts at the Veterinary Teaching Hospital, and ties in with the modules on Medical Pathology, Nutrition, Surgical Pathology and Surgery, Anaesthesiology and Diagnostic imaging. The hospital is divided into three main areas: small animals, large animals and common services area, which includes the anaesthesiology and pathological anatomy services, clinical, infectious and parasitic analyses laboratory. Practical work rotations are offered within these areas in the different specialisations. Each rotation includes clinical and planned activities which take place over two consecutive weeks.

Hospital rotations available for fourth-year students:

i. Internal medicine, hospitalisation and rehabilitation of large animals (IML).

ii. Internal medicine in small animals (IMS).

iii. Hospitalisation and rehabilitation of small animals (HOSP S).

iv. Surgery on small animals (SS).

v. Surgery on large animals (SL).

vi. Anaesthesia (ANAES).

Hospital externships take place every teaching week of the year except 2 scheduled weeks every quarter, which are allocated to non-hospital subjects' practical work. Students are divided into groups of 4-5 students at the beginning
of the year and they complete the six hospital rotations in these groups in each quarter and on one of the four available shifts (Monday, Tuesday and Wednesday, or Thursday and Friday, either the morning or afternoon shift, respectively) as shown in this example of the second quarter of the 2013-2014 academic year:

**Hospital group rotations:**

<table>
<thead>
<tr>
<th>Week</th>
<th>IML</th>
<th>IMS</th>
<th>SL</th>
<th>SS</th>
<th>ANAES</th>
<th>HOSP S</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 to 9 Feb</td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
<td>A5</td>
<td>A6</td>
</tr>
<tr>
<td><strong>Mon, Tues, Wed</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 to 16 Feb</td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
<td>A5</td>
<td>A6</td>
</tr>
<tr>
<td>Afternoon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 to 23 Feb</td>
<td>A6</td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
<td>A5</td>
</tr>
<tr>
<td>24 Feb to 2 March</td>
<td>A6</td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
<td>A5</td>
</tr>
<tr>
<td><strong>Practical work</strong></td>
<td>3 to 9 March</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 to 16 March</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 to 23 March</td>
<td>A5</td>
<td>A6</td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
</tr>
<tr>
<td>24 Feb to 30 March</td>
<td>A5</td>
<td>A6</td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
</tr>
<tr>
<td><strong>Infectious diseases</strong></td>
<td>31 Mar to 6 Apr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 to 13 Apr</td>
<td>A4</td>
<td>A5</td>
<td>A6</td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
</tr>
<tr>
<td>21 to 27 Apr</td>
<td>A3</td>
<td>A4</td>
<td>A5</td>
<td>A6</td>
<td>A1</td>
<td>A2</td>
</tr>
<tr>
<td>28 April to 4 May</td>
<td>A3</td>
<td>A4</td>
<td>A5</td>
<td>A6</td>
<td>A1</td>
<td>A2</td>
</tr>
<tr>
<td>5 to 11 May</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
<td>A5</td>
<td>A6</td>
<td>A1</td>
</tr>
<tr>
<td>12 to 18 May</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
<td>A5</td>
<td>A6</td>
<td>A1</td>
</tr>
</tbody>
</table>

*Table 7 - Hospital group rotations*

Students spend a total of 4 weeks on each rotation during the fourth year, completing a total of 450 hours or hospital work per student. During these rotations students assist and participate in clinical rounds by the relevant department, they accompany and help consultants and perform, either with them or under their supervision, procedures/treatments on hospitalised patients. Throughout the year students also do night and weekend shifts amounting to 48 hours in total per student.
Each rotation has a practical work book containing the main concepts and theoretical/practical exercises performed in the department in question, as well as a list of skills that students must develop during the year and have mastered by the end of it. They also have a diary, in which they must take notes of cases in which they participated and list the practical procedures that they have performed.

During these rotations the various services, such as clinical analysis, parapsychological or microbiological analysis and pathological anatomy, are used for clinical and teaching purposes, even though there is no specific rotation for them in this academic year. Likewise, although there is no specific rotation for image diagnosis, each department carries out the necessary imaging tests with the students. Furthermore, students have structured practical laboratory sessions outside the hospital timetable hours, during which they see the various imaging techniques in motion in the different systems and species.

The mobile large animal clinic is part of the surgery rotation, and the students complete a total of 24 hours per year with a mobile clinic that has links with the university during the fourth year (hours included in the total of 450 hours per student).

**Fifth year:** Obstetrics and reproduction: annual subject with two rotations of students, who carry out their practical work at the LYEGRA reproduction centre. This subject contains 24 hours of practical work and hospitalisation. Students complete a total of 37 hours on rotation. Groups of 7-10 students. Practical externships are on an individual basis and the student must complete their pre-professional practical work in direct contact with animals; these take place as follows:

- 200 hours at the Veterinary Teaching Hospital on rotation around the different departments. Practical work in groups of 7 students.
- 4 weeks in an external company, usually veterinary clinics, with an agreement with the Faculty of Veterinary Medicine, with a total of 70 hours. Individual practical work.
- 2 weeks at a slaughterhouse that has an agreement with the Faculty. A total of 35 hours. These are also individual externships.
- 2 weeks at the veterinary teaching farm, directly with the veterinary services of the concessionary companies. A total of 35 hours. Individual externships.

All the hours of practical teaching specified are included in the tables.

4.6. SPECIFIC INFORMATION ON THE PRACTICAL TRAINING IN FOOD HYGIENE.

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

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

PRACTICAL WORK ON MANUFACTURING TECHNOLOGY AND PREPARATION OF MEAT PRODUCTS

PURPOSE OF THE PRACTICAL WORK: To train the student in practical knowledge about food technology used in preparing MEAT PRODUCTS (Spanish Food Code definition), and practical knowledge about equipment and facilities.

FOOD GROUP COVERED IN THE PRACTICAL WORK: Practical work is completed under supervision by the teaching staff that have delivered the core subjects on the food products studied on the visit, namely:

- salt-cured meat,
- smoked meat,
- marinated meat,
- sausages, cold meats,
- processed meats.
STRUCTURE OF THE PRACTICAL WORK:

- **Frequency:** Students take part in one visit per year after attending core classes covering the subjects concerning the food products studied on the visit.
- **No. of teachers:** Two teachers for every 60 students on each practical session.
- **No. of students:** Two groups of 30 students on each practical session.
- **Duration of the practical session:** 3 hours.

PRACTICAL WORK ON MANUFACTURING TECHNOLOGY AND PREPARATION OF DAIRY PRODUCTS

**PURPOSE OF THE PRACTICAL WORK:** To train the student in practical knowledge about food technology used in preparing DAIRY PRODUCTS (Spanish Food Code definition), and practical knowledge about equipment and facilities.

**FOOD GROUP COVERED IN THE PRACTICAL WORK:** Practical work is completed under supervision by the teaching staffs that have delivered the core subjects on the food products studied on the visit, namely:

- milk,
- cream,
- butter,
- Cheeses.

**STRUCTURE OF THE PRACTICAL WORK:**

- **Frequency:** Students take part in one visit per year after attending core classes covering the subjects concerning the food products studied on the visit.
- **No. of teachers:** Two teachers for every 60 students on each practical session.
• **No. of students:** Two groups of 30 students on each practical session.

• **Duration of the practical session:** 3 hours.

**PRACTICAL WORK ON FRUIT AND VEGETABLE INSPECTION**

**PURPOSE OF THE PRACTICAL WORK:** To train the student in practical knowledge on the inspection, hygiene and descriptive bromatology of FOOD PRODUCTS OF PLANT ORIGIN (Spanish Food Code definition), in addition to hygiene and conditions of facilities and material for food use.

**FOOD GROUP COVERED IN THE PRACTICAL WORK:** Practical work is completed under supervision by the teaching staffs that have delivered the core subjects on the food products studied on the visit, namely:

- tubers,
- cereals,
- leguminous vegetables,
- garden vegetables and vegetables,
- fruits and their derivatives,
- mushrooms and fungi.

**STRUCTURE OF THE PRACTICAL WORK:**

- **Frequency:** Students take part in one visit per year after attending core classes covering the subjects concerning the food products studied on the visit.

- **No. of teachers:** Two teachers for every 24 students on each practical session.

- **No. of students:** Two groups of 12 students on each practical session.

- **Duration of the practical session:** 3 hours.
In-company externships (external) | Teacher/hours | Observations
---|---|---
Visit to Mercamadrid FRUIT AND VEGETABLE MARKET | 2 teachers | The 12 groups of students will take part in:
3 hours of practical work in two groups of students
4 visits

PRACTICAL WORK ON FISH AND SEAFOOD INSPECTION

PURPOSE OF THE PRACTICAL WORK: To train the student in practical knowledge on the inspection of FISH AND SEAFOOD (Spanish Food Code definition), food hygiene for the food products being inspected and hygiene in facilities and of material for food use.

FOOD GROUP COVERED IN THE PRACTICAL WORK: Practical work is completed under supervision by the teaching staffs that have delivered the core subjects on the food products studied on the visit, namely:
- fish and fish products,
- seafood (crustaceans and molluscs) and seafood products.

STRUCTURE OF THE PRACTICAL WORK:
- **Frequency:** Students take part in one visit per year after attending core classes covering the subjects concerning the food products studied on the visit.
- **No. of teachers:** Two teachers for every 24 students on each practical session.
- **No. of students:** Two groups of 12 students on each practical session.
- **Duration of the practical session:** 3 hours.
In-company externships (external) | Teacher/hours | Observations |
--- | --- | --- |
Visit to Mercamadrid FISH MARKET | 2 teachers | The 12 groups of students will take part in: 3 hours of practical work in two groups of students 4 visits |

PRACTICAL WORK ON MEAT AND MEAT PRODUCTS INSPECTION

PURPOSE OF THE PRACTICAL WORK: To train the student in practical knowledge on the inspection of MEAT AND MEAT PRODUCTS (Spanish Food Code definition), food hygiene for the food products being inspected and hygiene in facilities and of material for food use.

FOOD GROUP COVERED IN THE PRACTICAL WORK: Practical work is completed under supervision by the teaching staffs that have delivered the core subjects on the food products studied on the visit, namely:

- Meat from slaughterhouse species (cattle, sheep and pig)
- Meat products.

STRUCTURE OF THE PRACTICAL WORK:

- **Frequency:** Students take part in one visit per year after attending core classes covering the subjects concerning the food products studied on the visit.
- **No. of teachers:** Two teachers for every 24 students on each practical session.
- **No. of students:** Two groups of 12 students on each practical session.
- **Duration of the practical session:** 3 hours.
In-company externships (external)  Teacher/hours  Observations

Visit to Mercamadrid MEAT MARKET  2 teachers  The 12 groups of students will take part in:
3 hours of practical work in two groups of students

4.7. COMMENTS.

Please comment on the way in which the veterinary curriculum prepares the graduate for the various parts of the veterinary profession, especially under the specific conditions prevailing in your country/region.

Please comment on the way the curriculum is structured and reviewed.

Please comment on the major developments in the curriculum, now and in the near future.

Please comment on any circumstances that might influence the ratios in 4.5.

The Veterinary Medicine degree curriculum is fully implemented in line with the European credit proportions described.

Since the Veterinary Teaching Hospital opened, students have received high-quality clinical training, completing a total of 720 hours, in small groups of 3 to 4 students in the different departments; this not only provides significant clinical experience but medical training in the thinking patterns required for exercising their profession.

With regard to clinical activity with small species, our students have learnt the skills required to begin their future professional work immediately. They also have the chance to learn about different specialisations and the possible options to access them.
In the field of equine veterinary medicine, Madrid is a region with significant equestrian activity, which is conducive to professional entry to this field.

It has around 17,000 horses.

The curriculum also enables students to come into contact with the different areas of production, especially those with a high presence in the region.

With regard to food technology and hygiene, the practical work in the field at the University enables students to understand the basic processes, while external visits encourage learning about the working reality in the business field.

4.8. SUGGESTIONS.

If the denominators in 4.5 for your Faculty are not meeting the "satisfactory" range as indicated in the table in Appendix I, what can be done to improve the ratios?
5. CHAPTER 5. TEACHING: QUALITY AND EVALUATION

FACTUAL INFORMATION

5.1. TEACHING PROGRAMME

Describe the measures taken to ensure coordination of teaching between different departments, sections, institutes and services.

Academic planning is coordinated by the director of studies and the Deanery. There are also academic coordinators for each year of the degree course.

The Faculty has committees which work to improve the quality of teaching and others that focus on research, construction work and infrastructure, professional issues and more. In addition, it is sufficiently well equipped with facilities and resources to provide quality education (Veterinary Teaching Hospital, teaching farm, anatomy museum, dissection and necropsy rooms) as part of the general services offered by the University, which include laboratories and animal research facilities, the general library, sports facilities, accommodation for the university community and catering services.

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

Universidad Alfonso X makes an Intranet tool - the Virtual campus - available to teachers and students; using this tool students can access the materials for the subjects that they are taking, such as presentations, interactive atlases, diagrams, books, articles etc. They can also have virtual tutorials via email.
Finally, the Faculty has several computer rooms with a total of 30 computers per room, given that this type of teaching is increasingly common in all subjects. Two of these rooms are open-access rooms, i.e. students can use them to prepare their work when they are not being used for teaching.

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

Notes taken during core classes form the basis to guide and expand the students' studies and may be considered as a supplement to the other material used. All the textbooks recommended by teaching staff can be accessed in the campus's central library on the campus and in the department libraries, where a sufficient number of copies of each book are available. In addition, the virtual campus tool has become a perfect companion to ensure that students have more reliable material than their notes; some of the teaching staff also choose to photocopy materials.
Describe (if applicable) any established or contractual arrangements that support undergraduate teaching between the Faculty and outside bodies, e.g. farms, breeding centres, veterinarians, general veterinary services, factories/processing plants, outside laboratories etc. Briefly describe how these arrangements work out in practice in terms of the contact this provides for all students or for selected students.

Agreements are made with companies and public bodies for the tutored externship module; these are individual agreements and must be renewed by each student.

The list of companies with which the Faculty of Veterinary Medicine has agreements in place for externships can be found in Appendix I.

The running of the externships is simple: once the agreement has been made with the company, the student has two tutors (one from the Faculty and the other from the company), who each write a report at the end of the externship, covering the level of achievement and performance, in order to award the teaching credits to the student and to grant them their scholarship, if applicable. The student also has to write a report, which is an essential requirement for renewal of the externships in subsequent years.

Students have made contacts on these externships that have led to employment contracts in many cases.

5.2. THE TEACHING ENVIRONMENT

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

The Universidad Alfonso X makes a wide range of courses, workshops and seminars available to its teaching staff every year, so that they can develop their teaching skills and abilities. The courses are preferably held in June and July each year.
The courses and workshops organised are voluntarily and the following courses are on offer, among others: courses on learning to use new teaching methods, on adapting to the European Higher Education Area, on the use of new audio-visual techniques, English classes for different levels etc.

The University also organises a number of courses for management and services staff (support staff) on general topics or subjects specifically related to their post; it is worth mentioning the course on measures to reduce occupational risks, which was attended by many of the Veterinary Medicine Faculty staff.

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

Teachers are evaluated each semester by students, through electronic surveys, and by the management team. Teachers evaluated positively are given extra financial payment.

Describe other measures taken to improve the quality of teaching.

The teaching evaluation results are gathered through GEA, and once evaluated and published in the Faculty's annual reports are discussed at the:
- Assessment Boards: the assessment boards are held after both the ordinary and extraordinary examination sessions.
- Faculty Committees: convened every month and attended by all the Directors of studies in the Health Sciences field.
- Academic Committees: also meet every month and function as an executive body (attended by the rector, vice rectors and deans).
5.3. EXAMINATION SYSTEM

Describe the examination system of the Faculty, in particular: Is there a central examination policy for the Faculty as a whole? If 'yes', by whom is it decided?

There is no central examination policy for the examination system. Subject teachers and the department overseeing the teaching decide upon the examination system, in accordance with teacher autonomy as recognised by law. The examination policy makes references to the previous points, i.e.:

- The examinations for each subject, and therefore the final grade, must take into account both theoretical and practical and clinical work, with each of these categories given the specific weighting represented by the number of credits allocated to it in the study programme.
- In final examinations and partial qualifying examinations, the pass mark (pass and/or eliminate that part of the subject) is 5/10.

The examination calendar is decided at the Faculty Board meeting for all the examination sessions (February, June and July), taking into account several issues:

a. Subjects cannot have a specific day assigned to them in the examination period, but must rotate with all the subjects on the course.

b. No subject can use more than one day in each period to hold the examination.

c. There cannot be two examinations on the same day in the examination period for two subjects from the same academic year.

d. Every effort is made to ensure that two subjects from successive academic years are not held at the same time.

Once the examination schedule has been approved (before 30th May) it is included in the Study Guide for its publication on the CD-ROM and on the
Faculty website, for planning purposes and in order for it to be available to students before they enrol.

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

- February: final examination for the quarterly subjects taught in the first quarter. Covers approximately the whole month of January.
- June: final examination for subjects taught all year round and quarterly subjects taught in the second quarter. Runs from approximately 15th May until 15th June.
- July: final examinations. Covers the month of July.

Teaching is interrupted in all these periods.

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

There is not set examination form. Each subject sets its own evaluation rules, including both continuous assessment and examinations on theoretical, practical and clinical content etc. These rules are published on the subject portals.

The following forms are generally used: short questions, test questions, oral and practical examinations, etc.

Is use made of external examiners?

External examiners are not used in the subjects on the Licentiate degree course.

How many retakes of an examination are allowed?
Once the ordinary and extraordinary examinations have been taken, a student must enrol again on the subject course.

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

Examinations generally last between 1 and 2 hours. Examinations that last longer (3 hours) include a 15-minute break.

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

There are no restrictions for progressing to the next academic year, except in the case of the hospital-related subjects. In order to be accepted for the Medical Pathology and Nutrition, Surgical Pathology and Surgery and Anaesthesiology modules, students must have passed Anatomy, Physiology, Propaedeutics and Physiopathology.

### 5.4. EVALUATION OF TEACHING AND LEARNING

Describe the methods used to assess the quality of teaching and learning in the Faculty.

*Indicate whether the evaluation is a Faculty procedure, or one set up by individual departments, by students or by individuals.*

*Describe the role of students in the evaluation of teaching and teachers.*

*Describe the follow-up given to the evaluation.*

Students complete an anonymous online evaluation on all teachers on a quarterly basis. The data appears on the Intranet in the evaluation section. The faculty deanery, directors of studies, human resources department and the rectorate have access to this data.

Teachers also have access to their own evaluation.
The analysis of negative results are evaluated by the directors of studies and the teachers.

### 5.5. STUDENT WELFARE

*Describe the facilities (not related to the teaching programme) which the establishment provides for students (accommodation, sports, canteen, restaurant etc.).*

#### Residences

The Universidad Alfonso X el Sabio has three modern university residences located right on the Villanueva de la Cañada Campus, next to a holm oak forest and just a few feet away from the classrooms.

These three buildings, with views of the Sierra de Guadarrama, offer residents all the services that they need to ensure that they develop academically and personally in the best possible way.

Every year 800 students enrolled at the UAX, from all over Spain and from different European countries, live together in a homely environment and turn the residences into a social environment conducive to their comprehensive development. Their location on the University campus, in natural surroundings and next to a golf course, give students the peace and tranquillity needed to focus their efforts on their studies.

#### Sports facilities

The aim of the UAX's sports services is to offer a service which is in line with society's current demands. Accordingly, it offers a professional technical team specialised in different levels and ages, comfortable facilities and extensive opening hours from Monday to Sunday, and in which students can find the facilities and services which best suit their needs.
It also offers a natural grass rugby pitch.

Dining rooms

The university has an exclusive building which houses the cafeteria service and three dining rooms offering a varied and high-quality menu. The cafeteria is very spacious and bright.

Describe the guidance offered by the Faculty (or its parent institution) for students with problems (social problems, study problems, problems for future career development or job seeking).
Student support service

The fundamental aim of the student and family support and assistance service is to assist students at the University and their families in any aspects related to their stay with us and the operation of the institution's activities.

It deals with suggestions and proposals from the university students, their complaints and any disputes, and provides any information or clarification that their relatives may require.

Psychopedagogical support office

Presentation and objectives

The Psychopedagogical Support Office is made up of a team of psychologists, education experts and family counsellors. Its objective is to provide students with personalised support, if they so wish, offering them the psychological and pedagogical guidance that they require.

Services

- psychopedagogical advice and guidance,
- study techniques,
- UAX entrance test results,
- tutorial coordination,
- change of degree,
- teaching staff evaluation surveys.

The University Ombudsman

The University Ombudsman is committed to safeguarding the rights and freedoms of teachers, students and management and service staff in response to action by the different university bodies and services. The Ombudsman's work, always focused on improving the quality of the university in all areas, is not bound by any obligatory mandate from any university authority and is governed by the principles of independence and autonomy.
The Ombudsman is appointed by the University's Administration Body from a list of people who, in its opinion, satisfy the specific conditions for performing the tasks described in the previous paragraph.

The Ombudsman handles complaints presented by interested parties, parents and/or a student's financial guardian, encouraging a timely investigation in order to clarify the dispute; the Ombudsman must inform the competent body of the complaint, and that body must collaborate in the manner required for him to perform his role. The Ombudsman is accountable to the University's Administration Body and the Rector.

5.6. COMMENTS.

Please give general comments about the quality of the teaching programme.
Comment on the use of external examiners.
Comment on student participation in the design and control of courses and the curriculum in general.

The teaching programme is nearing its completion. The adjustments for each academic year have been made after implementation in each academic year. The adjustments have been made and have been approved by ANECA. The initial data on the BSc-equivalent degree study programme are being processed in order to compare it with the previous study programmes.

External examiners are an appropriate and important alternative; external evaluators have been involved in creating the current programme.

They may also be used in the final year projects.

Students are represented on the faculty's quality committee.

5.7. SUGGESTIONS.

Please indicate how the examination system could be improved in terms of time allocated, effectiveness, impartiality and selectivity.
What can be done to improve the quality of teaching?

The conducting and implementation of continuous assessment during the academic year improves students' readiness for evaluations and also makes it possible to complete and move on from subjects as the year progresses.

New teaching methodologies based on interactivity, problem solving, the student's personal effort in individually searching for information and in continuous assessment have been applied in the degree programme. These methods partly replace the core class, although this essential teaching and learning component does not disappear entirely.

The new technologies used to enhance learning, based on audio-visual and IT methods, are used in the classroom and are gradually changing the status of traditional, less dynamic and interactive methods, without eliminating them altogether. In this respect and in recent years, the Faculty has made a significant effort to modernise.
6. CHAPTER 6. FACILITIES AND EQUIPMENT

6.1. FACTUAL INFORMATION.

6.1.1. PREMISES IN GENERAL.

Please give a general description of the site(s) and building(s) occupied by the Faculty. Please include a map if possible.

a) Classroom facilities
The UAX Faculty of Veterinary Medicine is an integrated part of the Villanueva de la Cañada university campus, which houses classroom buildings (building A and D), laboratories (buildings B and C), practical workshops and the Veterinary Teaching Hospital. (photos 1 and 2). The experimental farm is located 30 kilometres away in a zoological complex in Navas del Rey.
b) Buildings A and D

The buildings have 47 and 54 adapted classrooms, respectively, used for theoretical teaching. (audio-visual methods, Internet, etc.)

![UAX Library](image9.png)

*Picture 9 - UAX Library*

The library covers an area of 1,500 m² divided into a study and volumes area (ground floor), internet access, books and electronic journals (1st floor).

![UAX Library](image10.png)

*Picture 10 - UAX Library*
c) Veterinary Teaching Hospital

With a total area of 5,000 m², the Veterinary Teaching Hospital comprises the following areas:

Reception and waiting room, with computers, computer software (appointments, medical records etc.), scanner, photocopiers etc.

Small animals area:
- four general consultation rooms, equipped with examination tables and an ophthalmoscope and an otoscope.
- a pre-surgery room and observation room;
- three operating theatres for small animal surgery. These areas are used by the different specialisations. The operating theatres are equipped with operating lights, suction apparatus, gas outlets and one of them has an imaging C-arm. The hospital also has different types of surgical instruments for different types of surgery, oscillating saws and orthopedics material;
- hospitalisation: there are four areas divided into intensive care, infectious or contagious disease, cats, toy dog breeds, and medium or large dogs, with around 30 available places.
Large animals area:
- comprises 2 general consultation areas, equipped with restraining equipment, specific floor and ultrasound apparatus;
- 2 induction and turning boxes;
- 2 fully equipped operating theatres;
- ICU, with 5 intensive care boxes;
- 30 external boxes;
- walker;
- heated swimming pool for rehabilitation and exercise;
- treadmill;
- maternity boxes.

Common services
- Pharmacy: office, two storage rooms and a laboratory for processing medicinal formulas and feeding tubes.
- Diagnostic imaging:
  - Endoscopy, two endoscopes for performing gastrointestinal endoscopies, bronchoscopies, arthroscopies and rhinoscopies and forceps for extracting foreign bodies and suction apparatus.
  - Magnetic resonance equipment to use with horses on their feet.
  - Computerised tomography.
  - Radiodiagnosis.
- Sterilisation room equipped with a plasma steriliser, an autoclave, a drying oven and cabinets for classifying surgical instruments.
- Pathology department: reception, sample-processing laboratory and a necropsy room equipped with tables and a cooling and freezing chamber.
- Anaesthesiology.

The veterinary hospital's anaesthesia department performs sedation and administers anaesthetics to small animals, horses, livestock and exotic and wild animals, to facilitate surgical, diagnostic and exploratory procedures.
It has an induction and anaesthesia recovery room for small animals and adequate equipment in the anaesthesia room and in the small animal and exotic species operating theatres: invasive and non-invasive cardiovascular monitors, respiratory monitors, assisted and controlled respiration, thermal blankets, full intravenous and inhaler-administered anaesthesia, residual anaesthetic gas extractors, automatic injectors, infusion pumps, neuromuscular monitors etc.

The Veterinary Teaching Hospital has two stables equipped for induction and anaesthetic recovery which are used by the large animal operating theatres. These operating theatres have suitable anaesthetic equipment, including invasive and non-invasive cardiovascular monitoring, respiratory monitors, assisted and controlled respiration and full intravenous and inhaler-administered anaesthesia.

The anaesthesia department is also responsible for performing various pre-operative, intra-operative and post-operative analgesia techniques. One of the most important objectives of the Veterinary Teaching Hospital is to guarantee its patients’ maximum well-being, through adequate pain control. This objective is met by using multimodal analgesia techniques which also include performing local and/or general techniques, including via the epidural route.
d) Experimental farm

The Universidad Alfonso X el Sabio Faculty of Veterinary Medicine set up the new experimental farm in Navas del Rey during the 2012-2013 academic year. Veterinary students perform practical farming work with wild animals and practical animal production work on its premises.

The experimental farm is an 8-hectare educational space and comprises a wild species recovery centre, a wildlife care department and a lagoon birds observatory. The centre has varied facilities to house wildlife, a vulture nesting area, different areas adapted to species' environments, a classroom for delivering classes with up to 30 students, infirmary etc.

It also has 50 laying hens from four native Spanish breeds in a semi-extensive system, which enables practical work on ethnology and animal production to be carried out by 300 students.

It is also worth highlighting the creation of a fish cage (for trout) in the centre's natural lagoons and a variety of facilities, aquariums, larviculture system etc., which make it possible to conduct practical work as part of the fish farming and animal production subjects.

In this way, veterinary students at the UAX work in direct contact with wild animals and become professionals that are able to encourage education,
awareness and research programmes on wildlife and the Mediterranean forest's ecosystem. With the aim of furthering training and knowledge related to wildlife, students work in close contact with over 40 different animal species, divided into mammals, reptiles, amphibians and birds.

6.2. PREMISES USED FOR CLINICS AND HOSPITALISATION

Table 6.2.1: Places available for clinics and hospitalisation

- Number of places for the hospitalisation of cattle: 4.
- Number of places for the hospitalisation of horses: 35.
- Number of places for the hospitalisation of small ruminants: 20.
- Number of places for the hospitalisation of pigs: 8.
- Number of places for the hospitalisation of dogs: 30.
- Number of places for the hospitalisation of cats: 10
- Number of places for hospitalisation of wild animals: 4

Number of animals that can be housed in isolation facilities (infectious and contagious diseases hospital):
- Dogs and cats: 4.
- Small ruminants: 20.
- Pigs: 8.

Table 8 - Places available for clinics and hospitalisation
6.3. PREMISES FOR ANIMALS

Give a description of the facilities for rearing and maintaining normal animals for teaching purposes.

a. VETERINARY TEACHING HOSPITAL

The following animals are kept in the Veterinary Teaching Hospital's animal research facilities for teaching purposes:

- Horses: 8.
- Donkeys: 1.
- Male calves: 2.
- Sheep: 25.
- Dogs and cats: temporarily used for practical work and then put up for adoption
  - Dogs: 10.
  - Cats: 10.

b. VETERINARY TEACHING FARM

50 laying hens of 4 native Spanish breeds in a semi-extensive system.
Swimming pool and cage for trout.

6.4. PREMISES USED FOR THEORETICAL, PRACTICAL AND SUPERVISED TEACHING

a. Building D. 54 classrooms seating 60 students (audio-visual resources).
b. Building A. 47 classrooms seating 60 students (audio-visual resources).
c. Veterinary Teaching Hospital 3 seminar rooms seating 30 students (audio-visual resources).

Capacity: approximately 3,600 places.
d. Laboratories

Building T.

1\textsuperscript{st} floor laboratories: laboratories A and B, capacity of 30 work stations.

2\textsuperscript{nd} floor laboratories: laboratory (physiology, pharmacology and parasitic diseases).

Building B.

Chemical and microbiology laboratories: 1\textsuperscript{st} and 2\textsuperscript{nd} floors

Capacity of 40 work stations.

Computer rooms: 4 rooms with capacity for 120 students.

Practical work also takes place in:
- 3 surgery rooms for 10 students in each one.
- 2 large animal examination rooms: for 20 students.
- 4 small animal examination rooms: for 6 students.
- Necropsy room: for 30 students.
- Dissection room: for 30 students.

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

Students handle both small and large animals during practical work in the clinics and the farm, always under the supervision of a teacher. In the case of particularly aggressive animals, special sedation and handling protocols are applied.

With regard to practical laboratory work, before each practical session students are given basic safety advice regarding the practical work that they are going to perform and are given gloves and masks if necessary; the use of
suitable work clothes (lab coat or suits) is obligatory in the laboratories, hospital, dissection room and on the farm. The dissection room has an extraction system that eliminates gases. The teaching laboratories are equipped with basic safety measures.

In the event of an accident, the Faculty is part of the general emergency system of the Universidad Alfonso X; there is also a first aid unit on the campus and a transfer service to the nearby hospitals.

6.5. DIAGNOSTIC LABORATORIES AND CLINICAL SUPPORT SERVICES

**Diagnostic laboratories**

Briefly describe the facilities available for clinical pathology and diagnostic pathology work.

**Clinical Analysis:** The clinical analysis laboratory performs haematological and biochemical analyses and body fluid studies and cytology. There is one laboratory technician and one laboratory manager. In addition to basic equipment, the laboratory is equipped with a haematology auto-analyser, a coagulometer, a manual and automatic electrophoresis system, a gas and ion analyser, an automatic biochemistry analyser and a cytocentrifuge.

**Anatomic Pathology:** The necropsy room is located in the Veterinary Teaching Hospital. It occupies around 300 m², including laboratories, entrances and the room itself. It has two separate entrances: one leading from reception and another for students to use when entering to carry out practical work. It also has a loading bay for bringing animals into the room.

The laboratories are divided into two: one section for fixation and sizing of the samples and the other for processing, cutting and staining the preparations. These laboratories are equipped with the latest equipment, such as the sample processor, the paraffin dispensing console or the microtome.
The necropsy room provides teaching services by delivering special pathology practical sessions as well as services to the Teaching Hospital's pathology service. The service is open from Monday to Friday from 08:30 until 17:00.

Around 200 necropsies and 400 biopsies are currently performed every year. It offers a histopathological diagnosis based on routine techniques (hematoxylin and eosin, trichrome staining etc.) as well as on immunocytochemistry techniques. A muscular pathology diagnostics service based on hystoenzymatic techniques is currently being put into operation.

Parasitology clinic: the clinical parasitology department is part of the Veterinary Teaching Hospital's organisational structure and operates as a support service for the diagnosis of parasitic processes in animals that are brought to the daily consultations. It also responds to requests from external professionals, both from small animal clinics and livestock units with all types of slaughterhouse species that request our services.

**Central clinical support services**

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

**Diagnostic imaging**

The diagnostic imaging department is responsible for taking radiographies of clinical cases that come into the veterinary hospital, in small, exotic and large animals. Both simple and contrast radiographs are taken. Ultrasound scans of the abdominal cavity, thoracic cavity, cardiac cavity and the musculoskeletal system in small and exotic animals and equidae are routinely performed. It has two X-ray rooms, one for large animals and another for small animals. It also has CT scanning equipment for small animals and magnetic resonance equipment for horses.
Anaesthesia

The veterinary hospital's anaesthesia department performs sedation and administers anaesthetics to small animals, horses, livestock and exotic and wild animals in order to perform surgical, diagnostic and exploratory procedures.

It has an induction and anaesthesia recovery room for small animals and adequate equipment in the anaesthesia room and in the small animal and exotic species operating theatres: invasive and non-invasive cardiovascular monitors, respiratory monitors, assisted and controlled respiration, thermal blankets, full intravenous and inhaler-administered anaesthesia (isoflurane and sevoflurane), residual anaesthetic gas extractors, automatic injectors, infusion pumps, neuromuscular monitors etc.

The Veterinary Teaching Hospital has two stables equipped for induction and anaesthetic recovery which are used by the large animal operating theatres. These operating theatres have suitable anaesthetic equipment, including invasive and non-invasive cardiovascular monitors, respiratory monitors, assisted and controlled respiration and full intravenous and inhaler-administered anaesthesia (isoflurane and sevoflurane).

The anaesthesia department is also responsible for performing various pre-operative, intra-operative and post-operative analgesia techniques. One of the most important objectives of the Veterinary Teaching Hospital is to guarantee its patients' maximum well-being, through adequate pain control. This objective is met by using multimodal analgesia techniques which also include performing local and/or general techniques, including via the epidural route.

6.6. SLAUGHTERHOUSE FACILITIES

Slaughterhouse facilities

Describe briefly the slaughterhouse facility to which the Faculty has access, including distances from the Faculty and level of activity.
MRM2, S.A.
Meat industry company that manufactures a wide range of meat products and pre-prepared dishes.
Address: Calle de Regordoño 12, 28936 Móstoles, Madrid.
Telephone: (+ 34) 91 647 19 09.
Fax: (+ 34) 91 647 19 20.
Email: info@mrm.es.
Website: www.mrm.es.

Distance to the Universidad Alfonso X El Sabio Faculty of Veterinary Medicine:
25.2 km, i.e. a journey of around 26 minutes.
Madrid Central Meat Market
Address: Avenida de Madrid s/n, 28053 Madrid.
Telephone: (+ 34) 91 785 00 00.
Email: mercamadrid@mercamadrid.es.
Website: www.mercamadrid.es.

The Meat Market became fully operational in 1999 and was very well received by companies selling meat products from the Community of Madrid and those in other important sectors covered by the Mercamadrid Food Unit.

- 42,000 m² floor area over three storeys.
- 11,000 m² service points.
- 700 parking spaces.

This new market responds to the challenge of giving a safe and effective answer to the sectors which manufacture the most important products in the Spanish food industry, by offering a wide range of meat products and processed meat products under the highest possible safety conditions.

The Meat Market is not only focused on consumption but also on production. There are many stockbreeders involved in the new market, which promotes products with a designation of origin and quality certifications.

The 24 companies based in the Meat Market are part of the Madrid Association of Meat Industries (A.I.E.).

Location:

Mercamadrid is strategically located on the M40 Madrid outer ring road (exit 19 AB if travelling in a North-South direction and exit number 20 in the South-North direction), with direct access routes to the M45 and M50 ring rounds via the M31 (south-east section) and the new R-4 Madrid-Ocaña radial road that leads directly to the A-4, the Madrid-Seville motorway.
Picture 14 - Map
The Atocha Cercanía train stations and Atocha long-distance train station are located just a few minutes from Mercamadrid, in addition to the Abroñigal station for goods transport.

GPS coordinates
Latitude: 40.36083333.
Longitude: -3.664722222.

Distance to the Universidad Alfonso X El Sabio Faculty of Veterinary Medicine:
44.5 km, i.e. a journey of around 38 minutes.

3.1. FOOD PRODUCT PROCESSING UNIT

Food product processing unit.
Describe briefly any access that the Faculty has to food product processing units.

Danone S.A.:
Company engaged in the manufacture of dairy products, especially fermented milk products.

The factory was opened in 1994, 25 km from Madrid, where the production floor covers 62,000 m² and produces 160,000 tonnes of food products every year. It is one of the most modern and competitive factories in Europe, in which the entire process is automated using paper-free management systems. The factory produces food products 24 hours a day, 365 days a year and specialises in producing natural and flavoured yoghurt, Activia® natural and fat-free yoghurt, Vitalinea® flavoured yoghurts and Danet®.

Address: Avenida de la Industria 20, Polígono Industrial Tres Cantos, 28760 Tres Cantos, Madrid. Telephone: 91 807 44 00.
Website: www.danone.es.

Distance to the Universidad Alfonso X El Sabio Faculty of Veterinary Medicine:
50.2 km, i.e. a journey of around 41 minutes.
Madrid Central Fruit and Vegetable Market

Address: Avenida de Madrid s/n, 28053 Madrid.
Telephone: 91 785 00 00.
Email: mercamadrid@mercamadrid.es.
Website: www.mercamadrid.es.

The Mercamadrid Central Fruit and Vegetable Market stretches over 65,000 m² in 6 warehouses. Each warehouse contains 57 sales points, with a total of 342 in the whole market.
It also has a warehouse with an area of 8,880 m², which is equipped with 120 chambers with a total capacity of 1,800 m² used for maturing bananas before they are sold.

**Location:**

Mercamadrid is strategically located on the M40 Madrid outer ring road (exit 19 AB if travelling in a North-South direction and exit number 20 in the South-North direction), with direct access routes to the M45 and M50 ring rounds via the M31 (south-east section) and the new R-4 Madrid-Ocaña radial road that leads directly to the A-4, the Madrid-Seville motorway.

The Atocha Cercanía train stations and Atocha long-distance train station are located just a few minutes from Mercamadrid, in addition to the Abroñigal station for goods transport.

**GPS coordinates**

Latitude: 40.36083333.
Longitude: -3.664722222.

**Distance to the Universidad Alfonso X El Sabio Faculty of Veterinary Medicine:**

44.5 km, i.e. a journey of around 38 minutes.
Picture 16 - Map
Madrid Central Fish Market

Address: Avenida de Madrid s/n, 28053 Madrid.
Telephone: 91 785 00 00.
Email: mercamadrid@mercamadrid.es.
Website: www.mercamadrid.es.

The Mercamadrid fish market is a leading market in Europe in sales of fish and aquaculture products, setting a benchmark in terms of prices and trends.

It features a total covered area of 33,000 m² with annual sales of over 132 million kilograms, totalling almost one billion euros in financial terms.

The wholesale companies operating from the 156 stalls in the market offer an extremely wide range of fresh and frozen products to thousands of customers (retailers, companies in the sector, purchasing chains, large supermarkets etc.) every day.

- 33,000 m² covered floor space.
- 650 m loading bays.
- 60,000 m² of roads, parking areas and offloading areas.
- Ice factories with a daily production of 20 tonnes.
- Refrigerators for daily storage with a capacity of 2,000 m³.

The market has a presentation area, offices, ice factory, daily storage chambers, loading and offloading bays, internal and external roads, parking areas and all the services that the retailers need to carry out their business operations efficiently.
Location:

Mercamadrid is strategically located on the M40 Madrid outer ring road (exit 19 AB if travelling in a North-South direction and exit number 20 in the South-North direction), with direct access routes to the M45 and M50 ring rounds via the M31 (south-east section) and the new R-4 Madrid-Ocaña radial road that leads directly to the A-4, the Madrid-Seville motorway.

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GPS coordinates
Latitude: 40.36083333.
Longitude: -3.664722222.

Distance to the Universidad Alfonso X El Sabio Faculty of Veterinary Medicine: 44.5 km, i.e. a journey of around 38 minutes.
6.7. WASTE MANAGEMENT

Laboratories have containers in which biological samples, the material that comes into contact with them and chemical waste are disposed. They are regularly collected by a private waste-collection company.

The corpses of small animals are removed and incinerated by a company contracted for this waste management task.

6.8. FUTURE CHANGES

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

A possible extension to the food technology room in order to carry out other practical work is being considered.

6.9. COMMENTS.

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

In general, both buildings and the equipment in classrooms are suitable for training students, as they are all equipped with audio-visual resources and an internet connection.
6.10. SUGGESTIONS.

If you are unhappy with any situation, please list any improvements you would make in order of preference.
7. CHAPTER 7. ANIMALS AND TRAINING MATERIAL OF ANIMAL ORIGIN

7.1. FACTUAL INFORMATION

7.1.1. BASIC SUBJECTS

Anatomy.
Bone collection.
The bone collection contains 1,400 bones from different species.
It also contains 600 organs stored for practical work.
Preserved corpses for dissection work.
Around 10 assembled skeletons.

Pathology

Number of necropsies in the last 3 years.

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of necropsies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>Small animals</td>
<td></td>
</tr>
<tr>
<td>Dogs</td>
<td>50</td>
</tr>
<tr>
<td>Cats</td>
<td>20</td>
</tr>
<tr>
<td>Exotic mammals</td>
<td>6</td>
</tr>
<tr>
<td>Exotic non-mammalian animals</td>
<td>4</td>
</tr>
<tr>
<td>Large animals</td>
<td></td>
</tr>
<tr>
<td>Horses</td>
<td>15</td>
</tr>
<tr>
<td>Cattle</td>
<td>3</td>
</tr>
<tr>
<td>Pigs</td>
<td>2</td>
</tr>
<tr>
<td>Sheep</td>
<td>11</td>
</tr>
<tr>
<td>Rabbits</td>
<td>3</td>
</tr>
<tr>
<td>Birds</td>
<td>52</td>
</tr>
</tbody>
</table>

*Table 9 - Number of necropsies in the last 3 years.*
Table 10 - Necropsy area

Indicate the nature and extent of any additional sources of material for the teaching of necropsies and pathological anatomy, including slaughterhouse material. Indicate the nature of any other use of animals in the teaching process of basic subjects.

In addition to the cases that are made available through the Veterinary Teaching Hospital's pathological anatomy department, other sources are used:

- Dogs: town council kennels.
- Chickens: poultry farms.
- Pigs: pig farms.
- Small ruminants: sanitation drives or purchase of condemned animals.
- Seized slaughterhouse organs and preserved pathological organs.
7.2. ANIMAL PRODUCTION

Indicate the availability of food-producing animals for the practical teaching of students:

a) on the site of the institution,

b) on other sites to which the institution has access.

a. Experimental farm

Flock of 50 laying hens.
Growing and finishing chickens.

b. Food-producing animals for teaching

Bovine animals: 450 milk cows.
370 beef cattle.
1,500 fighting bulls.
Sheep: 330 animals under extensive production conditions.
Equines: 150 animals of different breeds.
Pigs: 180 animals of breeds reared under extensive farming conditions, with a total of 3,030 animals.
Hens: 50,000 under intensive farming conditions.

Aquaculture: trout production farm for consumption (PISZOYA).

c. External sites for practical work.

LIST OF ANIMAL PRODUCTION PRACTICAL WORK SITES

LA LIRA AND LA W HORSE FARM:

Located in the municipality of Alcaudete de la Jara (Toledo).

Owned by Mr. Enrique Guerrero Von Wittgenstein, President of the Association of Breeders of Purebred Lusitano Horses and Dressage competition judge.
Dedicated to breeding Lusitano horses, Spanish purebred (PRE) and sport horses.

The animals are intended for dressage and are trained in the equestrian centre at the farm.

Covering some 400 hectares, broodmares, stallions and foals roam free until they reach 3 years of age and start the training process, which takes place entirely on the farm's own premises.

Students have the chance to observe all aspects relating to the selection, breeding, handling and feeding at the horse farm. They also observe the rearing, handling and training processes.

AFRICAMA MILK COW FARMS:

Located in the Talavera la Nueva area (Toledo).

Africama (Friesian Association of Castille-La Mancha) is a cooperative mostly made up of medium-sized family farms (with between 100 and 150 cows per farm), using a high level of technology (some of them have milking robots) and animals with excellent genetic qualities.

They are dedicated to dairy cattle farming with cows of a high genetic value and high production levels (average production of between 37 and 42 litres per day).

The farms that students visit vary in size and some produce their own forage, as they are located in irrigated areas.

Africama manages milk sales and the acquisition of animal feed and other products under optimal conditions for its members. The majority of the farms which belong to the cooperative sell their milk to the DANONE and SENOBLE companies, which manufacture dairy products.

By visiting these farms, students have the opportunity to learn how all aspects of a milk farm are operated. Students can observe different free-stall farming systems (with or without stalls), breeding and rearing systems in individual and group facilities, the evaluation of the animals' physical condition,
feeding, reproductive planning, the milking routine - using a milking room with fishbone milking equipment or with an automatic robot - and even the removal of droppings using a scraping system and their processing (slurry and manure).

Due to its educational value for the student, the visit to the milking robot, an example of new technology that is not yet widely used on Spanish farms, is especially useful for students.

IEGRA (SPANISH INSTITUTE OF ANIMAL GENETICS AND REPRODUCTION)
Located in Talavera de la Reina (Toledo).
Owned by SANILIDIA S.L.

This centre has links with the UAX and has been approved for exports of semen doses and embryos to the other EU countries and to the United States.

It mainly works with cattle (fighting bulls, beef cattle and dairy cows) and equine animals (Spanish purebred horses, sport horses and donkeys).

It is equipped with highly advanced laboratories and facilities for obtaining and storing doses of semen and embryos. It has cattle pens which house the male breeding cattle of the Limousin, Belgian White Blue, Aberdeen Angus and Friesian breeds, and cows of the same breeds, as well as retinta and fighting cattle, from the sub-type Santa Coloma-Línea Coquilla (endangered breed) and Domecq breeds. The majority of the stallions are Spanish purebred animals.

As part of their practical work, students become familiar with the handling protocols used for assisted reproduction in animals and how to use the facilities, as well as the laboratory work protocol, which they must develop in the 5th year when taking the reproduction module. They are also taught about semen collection, multiple ovulation, artificial insemination and cryopreservation of germplasm techniques.
HERMANOS QUINTAS CATTLE FARM
Located in Colmenar del Arroyo (Madrid).
Owned by Gregorio Quintas Panadero and family.
Dedicated to extensive cattle farming, both for meat production and for producing fighting bulls.

Practical work carried out on these facilities enable students to acquire first-hand knowledge of different meat cattle breeds (mainly Limousin and Berrenda en Colorado) and fighting bulls (Santa Coloma-Línea Buendía, Martínez, Atanasio Fernández and Domecq). They also familiarise themselves with the design and usage of handling facilities used in extensive cattle farming (pens, vaccination bags, branding boxes etc.)

During the practical work a recap of the different breeds and an overview of the various types of fur and the branding controls from Genealogy of Fighting Cattle will also be verified, learning branding techniques and symbols which are used in accordance with current rules. Under the supervision of a teacher, students will also perform animal vaccination and de-worming work, learning the techniques to be applied in raceways and managing facilities.

PISZOYA FISH FARM
Located in Alba de Tormes (Salamanca)
Dedicated to trout production.

The company has three separate facilities, in which they use different fish farming and water circulation systems.

During the practical sessions students learn about the entire trout production and feeding cycle from the hatching of the egg, in the young fish phase, right through the growth period until they reach the adult phase, distinguishing between the various commercial types of trout according to age, weight and type of market at which they are aimed.

They will also learn about water circulation and control, feeding of trout in the different phases, classification by age and size in the pools, separation,
harvesting and storage of the trout. Students will also find out about the different products that the fish farm makes using trout and the sales channels for these products.

All the knowledge that students acquire here complements the practical aquaculture work, also using focused on trout, which students complete in advance at the UAX teaching farm in Navas del Rey.

CAMAR POULTRY FARM
Located in the province of Toledo.

This large farm specialises in brown-egg laying hens. Commercial hybrids, mainly the Isa Brown variety, are used.

During the practical work, students learn about the full production cycle of laying hens, from when they are acquired as chicks by a breeding farm, the growing-finishing phase and their usage for productive purposes as adults, until they are sent to the slaughterhouse to be culled. Special emphasis is placed on the biosafety measures required, as well as on various matters of hygiene and the need to be strict when carrying out depopulation activities.

The differences in broiler farms for meat production and the various handling and feeding techniques are also explained.

This practical work complements the work that students have completed throughout the year at the UAX teaching farm, in Navas del Rey, where students have learnt to categorise and evaluate eggs laid by hens of the native breeds available there, studied the different laying curves and have participated in the egg incubation process and helped rear chicks from birth, implementing the relevant growth curves and weight increases.

Students' prior knowledge of this artisanal-type breeding with endangered hen breeds is very useful when comparing them with commercial hybrids and the farming system that is used in the CAMAR industrial production farms.
EVENTAURO CATTLE FARM
Located in Ajalvir (Madrid).
Owned by Cipriano Hebrero Bravo.
Breeds fighting bulls.

This is a concentration centre housing the fighting bulls that have been bred by the owner and also those that have been acquired from other farms and reared for sale. The specific purpose and interest behind the practical work at this farm is to familiarise students with fighting bull production under extensive farming conditions, which are not the usual farming conditions used for this breed.

Students also acquire in-depth knowledge of all the handling equipment and the work dynamics on the farm.

Practical work on fighting bull breed selection is also performed on the same cattle farm, including explanations of their genealogical and morphological features, with students later attending a functional tienta selection test. During the test students carry out their own assessment of the specimens for the parameters subject to selection according to the breed improvement scheme, using the relevant scorecards.

LOS EULOGIOS CATTLE FARM
Located in Colmenar Viejo (Madrid).
Owned by José Manuel Sanz de la Morena.

Breeds Domecq fighting bulls under extensive farming conditions and following a system passed down from generation to generation. The livestock unit has many small farms where groups and small animals are housed and which have to be moved from one enclosure to another quite frequently. The animals are transferred using cattle tracks, herding the animals from one enclosure to another using horses and leading oxen.

The practical work enables students to learn about a farming and handling system which has all but disappeared and which originates from the old tradition of transhumance.
Occasionally, students may also be able to perform practical work at the same farm on branding control and fostering from the *Genealogy of Fighting Cattle*, jointly with the Hermanos Quintas cattle farm described above.

**LOS PRADILLOS CATTLE FARM**
Located in Talamanca de Jarama (Madrid).
Owned by Andrés Ruiz López de Urda.

This farm breeds fighting bulls for mainly agritourism purposes, which are combined with dressage events and Spanish purebred horse-drawn carriage exhibitions.

The main usefulness of this practical work is that it combines livestock production with rural tourism, so that students get an idea of the potential alternative resources to production, which make it possible to improve farms’ accounts.

**VIRGILIO FERNÁNDEZ DE LA VEGA HORSE FARM**
Located in Lillo, Toledo.

This farm breeds top-quality Spanish purebred horses and is an internationally renowned horse farm due to the quality of its products.

It also rears Manchega sheep under extensive farming conditions.

**GABRIEL GARCÍA DE LAS INFANTAS CATTLE FARM**
Located in Aranjuez, Madrid.
Owned by Antonio García Ortega.

This farm only breeds purebred Limousin beef cattle. They are reared under semi-extensive conditions, on artificial meadows and irrigated areas.

The cattle farm has around 100 female cows for breeding and 6 bulls, although it also uses artificial insemination. The animals of the highest quality are reared to be sold as breeding cows to other cattle farms and for replenishing
the cattle population on the farm, while those which are of a lower quality are sold to fattening farms for subsequent meat production.

The practical work gives students the chance to familiarise themselves with a beef cattle production model that is relatively widespread in Spain and compare the handling facilities used on this farm with others that use extensive farming systems.

The cattle farm also has a small Spanish purebred horse farm and the remainder of what was a fighting bull farm until a few years ago.

VÍCTOR HUERTAS VEGA CATTLE FARM
Located in Calzada de Oropesa (Toledo).

Mixed cattle farm under extensive farming conditions and on a pastureland ecosystem. They have beef cattle for meat production and cattle bred for fighting.

ESCUDERO DE CORTOS CATTLE FARM
Located in Cortos de la Sierra (Salamanca).

Owned by veterinarian Julián Escudero Sánchez.

It is a mixed cattle farm using extensive farming techniques on pastureland and farms Iberian pigs and fighting bulls, which have become a meat animal due to the crisis hitting the sector, by cross-breeding with Charolais bulls.

The pig farm has sows and performs the full cycle from reproduction by natural breeding, including the birth of the piglets, their castration, feeding for the first few months and feeding with acorns for the animals destined for the slaughterhouse, which are around fifteen to eighteen months old.

The farm's extensive farming system makes it possible to carry out practical work with pigs, which would be impossible in intensive farming systems due to the considerably stricter biosafety measures and as a result of our numbers of students.
Although the number of pig farms under extensive farming conditions only represent 3% of those present in Spain, the knowledge acquired there is very useful because they are linked to a production model that is very typical in Spain and which forms the basis of a very important market, that is Iberian meat products, many of which have designations of origin or have protected trademarks.

FIMA ZARAGOZA
Agriculture and livestock fair in Zaragoza.

The fair is held every year, but its focus alternates between agriculture and livestock and for this reason, we are only interested in the "odd" years, which focus on livestock.

The fair gives a complete overview of all aspects of livestock production, covering nutrition, handling, reproduction, new technology and animal resources. It also includes an exhibition of animals of various native breeds, integrated breeds and other breeds from different EU countries, goat breeds, sheep and, to a lesser extent, other species such as hens, rabbits, donkeys, pigeons etc.

The FIMA visit is a practical session which provides the students with a high amount of knowledge and an overview of the world of cattle production.

UAX TEACHING FARM
Located in Navas del Rey (Madrid).

Aquaculture practical work is carried out at this centre on trout culturing and poultry farming, based on farming of small groups of indigenous hen breeds - Pita Pinta, Pita Roxa, Pedresa de Cantabria, Pardo de León and Castellana Negra -, which are all endangered breeds. There is also a batch of Leghorn hens, which is used as the control batch.

Students study the entire hen production cycle, comparative laying curves, handling, egg incubation, chick rearing and their growth curves, with comparisons made between different breeds. Students are also taught how to
categorise and classify the eggs according to their freshness, yolk colour and changes that may appear on the shell and inside the egg.

The centre is also used for practical work on the ethnotogy module, in which students learn how to differentiate between the various existing hen breeds, as well as engaging with the wildlife kept in the centre.

**ZARZUELA RACE TRACK**

Students on the ethnology course visit the race track each year. They familiarise themselves with English thoroughbreds and learn about the features of the breed and the handling system implemented at the race track.

These practical sessions complement the work carried out previously at the UAX Teaching Hospital, where students acquire knowledge of different areas of the horse's body and an overview of their colours and variations.
## 7.3. FOOD HYGIENE

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

<table>
<thead>
<tr>
<th>Product</th>
<th>Quantity</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasteurised milk</td>
<td>140 litres</td>
<td>Cheese making</td>
</tr>
<tr>
<td>Powdered milk</td>
<td>6 kg</td>
<td>Cheese and yoghurt making</td>
</tr>
<tr>
<td>UHT whole milk</td>
<td>30 litres</td>
<td>Milk analysis and yoghurt making</td>
</tr>
<tr>
<td>UHT skimmed milk</td>
<td>12 litres</td>
<td>Milk analysis</td>
</tr>
<tr>
<td>Natural yoghurt</td>
<td>16 units</td>
<td>Yoghurt making</td>
</tr>
<tr>
<td>35% cream</td>
<td>20 litres</td>
<td>Butter making</td>
</tr>
<tr>
<td>Strong flour</td>
<td>12 Kg</td>
<td>Bread making</td>
</tr>
<tr>
<td>Plain wheat flour</td>
<td>12 Kg</td>
<td>Determination of gluten content, sausage preparation and squid ring substitute</td>
</tr>
<tr>
<td>Cornflour</td>
<td>2 Kg</td>
<td>Gluten-free bread making</td>
</tr>
<tr>
<td>Rice flour</td>
<td>4 Kg</td>
<td>Gluten-free bread making</td>
</tr>
<tr>
<td>Cassava starch</td>
<td>2 Kg</td>
<td>Gluten-free bread making</td>
</tr>
<tr>
<td>Freeze-dried yeast</td>
<td>500 g</td>
<td>Dough making and fermentation</td>
</tr>
<tr>
<td>Sugar</td>
<td>25 Kg</td>
<td>Preparation of invert sugar, fermentation and sausage making</td>
</tr>
<tr>
<td>Olive oil</td>
<td>2 litres</td>
<td>Cold-line food preparation</td>
</tr>
<tr>
<td>Potatoes</td>
<td>4 Kg</td>
<td>Cold-line food preparation</td>
</tr>
<tr>
<td>Carrots</td>
<td>4 Kg</td>
<td>Cold-line food preparation</td>
</tr>
<tr>
<td>Salt</td>
<td>15 Kg</td>
<td>Various types of practical work</td>
</tr>
<tr>
<td>Beef (lean meat in pieces)</td>
<td>15 Kg</td>
<td>Sausage making and meat restructuring</td>
</tr>
<tr>
<td>Product</td>
<td>Quantity</td>
<td>Use</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>Pork (lean meat in pieces)</td>
<td>24 Kg</td>
<td>Sausage making and meat restructuring</td>
</tr>
<tr>
<td>Bacon</td>
<td>5 Kg</td>
<td>Sausage making</td>
</tr>
<tr>
<td>Nitrifying salt</td>
<td>500 g</td>
<td>Sausage making</td>
</tr>
<tr>
<td>Nutmeg</td>
<td>500 g</td>
<td>Sausage making</td>
</tr>
<tr>
<td>Powdered onion</td>
<td>500 g</td>
<td>Sausage making</td>
</tr>
<tr>
<td>Powdered garlic</td>
<td>500 g</td>
<td>Sausage making</td>
</tr>
<tr>
<td>Black peppercorns</td>
<td>200 g</td>
<td>Sausage making</td>
</tr>
<tr>
<td>Ground white pepper</td>
<td>300 g</td>
<td>Sausage making</td>
</tr>
<tr>
<td>White wine</td>
<td>4 litres</td>
<td>Sausage making</td>
</tr>
<tr>
<td>Smoke flavouring</td>
<td>200 g</td>
<td>Sausage making</td>
</tr>
<tr>
<td>Sweet paprika</td>
<td>500 g</td>
<td>Sausage making</td>
</tr>
<tr>
<td>Hot paprika</td>
<td>500 g</td>
<td>Sausage making</td>
</tr>
<tr>
<td>Chemical raising agent</td>
<td>200 g</td>
<td>Invert sugar manufacturing</td>
</tr>
<tr>
<td>Corn starch</td>
<td>5 Kg</td>
<td>Non-Newtonian fluids practical work</td>
</tr>
<tr>
<td>Sunflower oil</td>
<td>2 litres</td>
<td>Oil analysis</td>
</tr>
<tr>
<td>Extra virgin olive oil</td>
<td>2 litres</td>
<td>Oil analysis</td>
</tr>
<tr>
<td>Olive-pomace oil</td>
<td>2 litres</td>
<td>Oil analysis</td>
</tr>
<tr>
<td>Olive oil</td>
<td>5 litres</td>
<td>Oil analysis, bakery products and squid ring substitute</td>
</tr>
<tr>
<td>Red cabbage</td>
<td>8 Kg</td>
<td>Anthocyanin extraction</td>
</tr>
<tr>
<td>Fresh fish</td>
<td>2 Kg</td>
<td>Determination of succinate dehydrogenase enzyme activity</td>
</tr>
<tr>
<td>Squid</td>
<td>2 Kg</td>
<td>Squid ring substitute manufacturing</td>
</tr>
<tr>
<td>Chickpeas</td>
<td>4 Kg</td>
<td>Canned food preparation</td>
</tr>
<tr>
<td>Beans</td>
<td>4 Kg</td>
<td>Canned food preparation</td>
</tr>
<tr>
<td>Chorizo for use in cooked dishes</td>
<td>1 Kg</td>
<td>Canned food preparation</td>
</tr>
</tbody>
</table>
### CONSULTATION.

State the number of weeks, in the course of the year, during which the clinics are open.

State the number of consultation days each week.

State the consultation hours.

The Veterinary Teaching Hospital is open 24 hours a day all year round.

**General consultation from 9:00 to 20:00.**

<table>
<thead>
<tr>
<th>Small Animals</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orthopedics/Otolaryngology</td>
<td>consultation: 09:00 - 10:00</td>
<td>surgery: 10:00 - 13:30</td>
<td>consultation: 15:00 - 17:00</td>
<td>consultation: 09:00 - 10:00</td>
<td>surgery: 10:00 - 13:30</td>
</tr>
<tr>
<td>Soft tissue/cardiorespiratory surgery</td>
<td>consultation: 16:30 - 20:30</td>
<td>surgery: 11:30 - 13:30</td>
<td></td>
<td>consultation: 08:00 - 09:30</td>
<td>13:30 - 17:00</td>
</tr>
<tr>
<td>Reproduction</td>
<td>consultation: 16:00 - 18:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oncology</td>
<td>consultation: 11:30 - 16:00</td>
<td></td>
<td></td>
<td>consultation: 09:30 - 16:00</td>
<td></td>
</tr>
<tr>
<td>Neurology</td>
<td>consultation: 08:00 - 14:00</td>
<td></td>
<td></td>
<td>consultation: 08:00 - 14:00</td>
<td></td>
</tr>
<tr>
<td>Diagnostic Imaging</td>
<td>09:30 - 14:30</td>
<td>09:30 - 14:30</td>
<td>09:30 - 14:30</td>
<td>09:30 - 14:30</td>
<td>09:30 - 14:30</td>
</tr>
<tr>
<td>Dermatology</td>
<td>consultation: 10:00 - 13:30</td>
<td>15:00 - 16:30</td>
<td></td>
<td>Consultation: 10:00 - 13:30</td>
<td>15:00 - 16:30</td>
</tr>
<tr>
<td>Exotic animals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dentistry</td>
<td>consultation: 17:30 - 19:30</td>
<td></td>
<td></td>
<td>consultation: 16:00 - 18:00</td>
<td></td>
</tr>
<tr>
<td>General medicine</td>
<td>normal consultation: 09:00 - 20:00</td>
<td>emergency consultation: 20:00 - 08:00</td>
<td>normal consultation: 09:00 - 20:00</td>
<td>emergency consultation: 20:00 - 08:00</td>
<td>normal consultation: 09:00 - 20:00</td>
</tr>
<tr>
<td>GENERAL MEDICINE emergencies</td>
<td>from 20:00 until 08:00</td>
<td>from 20:00 until 08:00</td>
<td>from 20:00 until 08:00</td>
<td>from 20:00 until 08:00</td>
<td>from 20:00 until 08:00</td>
</tr>
</tbody>
</table>
Table 11 - Consultation days each week

Table 7.4. Number of animals received at the Veterinary Teaching Hospital for consultations in the last 3 years:

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>Small animals</td>
<td></td>
</tr>
<tr>
<td>Dogs</td>
<td>2588</td>
</tr>
<tr>
<td>Cats</td>
<td>364</td>
</tr>
<tr>
<td>Other</td>
<td>91</td>
</tr>
<tr>
<td>Horses</td>
<td>207</td>
</tr>
<tr>
<td>Cattle</td>
<td>1</td>
</tr>
<tr>
<td>Pigs</td>
<td></td>
</tr>
<tr>
<td>Small ruminants</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Large animals*</td>
<td></td>
</tr>
</tbody>
</table>

Table 12 - Number of animals received at the Veterinary Teaching Hospital for consultations in the last 3 years

*Consultations with pigs or ruminants are not usually held at the Veterinary Teaching Hospital. Due to the intensive nature of their production, animals are not usually removed from the farm for diagnostic tests or treatments. Work on these animals is conducted in the mobile clinic.
7.5. HOSPITALISATION

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of animals hospitalised</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>Small animals</td>
<td></td>
</tr>
<tr>
<td>Dogs</td>
<td>695</td>
</tr>
<tr>
<td>Cats</td>
<td>91</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Large animals</td>
<td></td>
</tr>
<tr>
<td>Horses</td>
<td>124</td>
</tr>
<tr>
<td>Cattle</td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td></td>
</tr>
<tr>
<td>Small ruminants</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

*Table 13- Hospitalised patients in the last three years*

7.6. VEHICLES FOR ANIMAL TRANSPORT

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

*State whether customers are charged for this service.*

There are no faculty vehicles. The proposal submitted to acquire a mobile vehicle is currently being considered.

Three veterinarians who practise privately carry out activities with students during the different weeks on rotating timetables in the various animal facilities.
7.7. EMERGENCY SERVICE

Outline what emergency services are available at the centre.

There is an emergency service for small and large animals which covers all specialities, as well as support services: anaesthesia, clinical pathology and diagnostic imaging.

7.8. MOBILE CLINIC

State the number of hours of operation per week.

Indicate what emergency service provisions there are outside the normal hours of operation.

State the number, the type and the seating capacity of the vehicles used to transport students working in the mobile clinics.

State the approximate number of sick animals (specify cattle, swine, equine, poultry or small ruminants, or other) seen by the mobile clinic each year.

State the average number of visits in a year made by the mobile clinic to farms and stables to examine cattle, pigs, equines, poultry, small ruminants, or other.

The number of hours that the mobile clinic is in operation is 6 hours per week and per students in 4th and 5th year.

Transport is arranged privately.
7.9. OTHER INFORMATION.

<table>
<thead>
<tr>
<th><strong>Indicate any significant additional outside sources of material for clinical training purposes, such as animals from charities, animals awaiting slaughter etc.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicate how the level of clinical service that is offered by the Faculty (in small companion animals, equines and production animals) compares with outside practices in terms of facilities, hours of service, equipment, expertise, responsiveness etc.</strong></td>
</tr>
<tr>
<td><strong>Provide an indication in percentage terms of the proportion of cases that are primary (i.e. first opinion), and referrals (provide a breakdown by species, if helpful). If the Faculty has a particular aim or policy as regards this data, describe it.</strong></td>
</tr>
<tr>
<td><strong>Indicate what areas of clinical specialisation are covered and the extent of the coverage (for example, a veterinarian with a particular specialisation may see patients in the clinic for one day a week, 3 afternoons etc.)</strong></td>
</tr>
<tr>
<td><strong>Provide a summary of how fees for clinical services are determined and compare them with those charged by private veterinary services.</strong></td>
</tr>
<tr>
<td><strong>Indicate the relationship the Faculty has with outside practitioners (in small companion animals and production animals) in terms of matters such as referral work, providing diagnostic or advisory services for private veterinary practitioners, veterinary practitioners participating in teaching, holiday or overseeing students' practical work, feedback on the level of clinical training. Describe (if applicable) any other relationships with outside organisations that are routinely used to provide students with training (in particular practical training) in other clinical subjects (e.g. pathology work, interaction with state veterinary work in general).</strong></td>
</tr>
<tr>
<td><strong>Provide an outline of the administrative system(s) used for the patients, e.g. in terms of how case records are kept, how data are retrieved, whether systems are centralised etc.</strong></td>
</tr>
</tbody>
</table>

The Veterinary Teaching Hospital has a range of agreements with animal protection societies and kennels belonging to the Madrid city council (neutering practical work in dogs and cats). There are also agreements with Wildlife Recovery Centres (GREFA etc.) for practical work. There is an agreement with the IEGRA animal genetics centre for practical work on reproduction in large animals, with the ONCE organisation etc.
The Veterinary Teaching Hospital stands out from other hospitals or clinics in its field due to its wide range of specialisations and high-quality equipment. Its clinical staff members are widely known in Spain and Europe and include 4 board-certified specialists from European and American colleges.

In general, the total percentage of referred cases is around 60%, although for specialised departments such as cardiology, ophthalmology, dermatology or pathological anatomy this may increase to 80-90% of cases. It is expected that the number of referred cases will increase in the future.

Fees are generally equal to or higher than those charged in an average private hospital and usually exceed the minimum prices recommended by the Official Association of Veterinarians in order to prevent unfair competition.

7.10. RATIOS

Please consult the Main indicators section in Appendix 1 for the figures needed for calculating ratios.
Give the figures for numerators and denominators. The ratios should then be expressed by taking the numerator as 1.

7.10.1. Animals available for clinical work

7.1.10 RATIOS
Table 7.5: Animals available for clinical training (in the clinics of the Faculty or seen through the Ambulatory clinic) as a ratio to the number of students in their last full year of clinical training

<table>
<thead>
<tr>
<th>Denominator</th>
<th>no. of students graduating annually a)</th>
<th>no. of food-producing animals seen at the Faculty b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R11</td>
<td>103</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>0.19</td>
</tr>
<tr>
<td>R12</td>
<td>103</td>
<td>1</td>
</tr>
</tbody>
</table>

Page 168 de 217
graduating annually a)

| no. of individual food-animal consultations outside the Faculty\(^{2,3}\) | 3030 | 29.41 |

R13: 
\[
\text{number of herd health visits}^{3,4} = 50 / 0.48 = 0.48
\]

R14: 
\[
\text{number of equine cases}^{1} = 260 / 2.52 = 2.52
\]

R15: 
\[
\text{number of poultry/rabbit cases}^{1} = 60 / 0.58 = 0.58
\]

R16: 
\[
\text{no. of companion animals}^{1} = 3563 / 34.59 = 34.5
\]

R17: 
\[
\text{Poultry (flocks)/rabbits (production units) seen}^{2,3} = 10 / 0.09 = 0.09
\]

a) see Annex 1a, 2.2.b; \(^{1}\)Table 7.3, average; \(^{2}\)Table 7.4, average;

\(^{3}\) where applicable use or add information provided in chapter 7.1.8.2;

\(^{4}\) see 7.1.8.1

Ratio: students/production animals: 180/3030

Number of student graduates in the last year/number of production animals = 103/ 3030 = 1/29.41
Ratio: students/companion animals:

Number of student graduates in the last year/number of companion animals = 103/3916 = 1/38

7.10.2. Animals available for necropsies: 272

Ratio: students/post-mortem examinations 182/272

Table 7.6: Animals available for necropsy

<table>
<thead>
<tr>
<th>Denominator</th>
<th>no. of students graduating annually</th>
<th>no. necropsies</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>R18:</td>
<td></td>
<td></td>
<td>103</td>
</tr>
<tr>
<td></td>
<td>no. necropsies food-producing animals + equines</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>R19:</td>
<td></td>
<td></td>
<td>103</td>
</tr>
<tr>
<td></td>
<td>no. poultry/rabbits1)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>R20:</td>
<td></td>
<td></td>
<td>103</td>
</tr>
<tr>
<td></td>
<td>necropsies companion animals</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

7.11. COMMENTS

Comment on major developments in the clinical services, now and in the near future. Comment on local conditions or circumstances that might influence the ratios in table 7.10.

The low number of cases of large pigs and bovine animals is due to the geographical location. This is compensated by travelling to carry out practical work in livestock units and by agreements with various sector companies.
7.12. SUGGESTIONS

If the ratios in table 7.10 for your Faculty are not meeting the satisfactory range as indicated in the table in Appendix I, please add details on what can be done to improve these ratios.

Introduction of external visits by clinical veterinarians working specifically with livestock.

The intention is to add other production units to the farm (rabbits).
8. CHAPTER 8. LIBRARY AND LEARNING SOURCES

Picture 18- Library
8.1. FACTUAL INFORMATION

8.1.1. LIBRARY AND OTHER INFORMATION TECHNOLOGY SERVICES

Give a general description of the library/libraries of the Faculty/university that are available to students. Indicate how the library/libraries are managed (e.g. library committee).

For each major Faculty library, please provide the following information, either in narrative or tabular form.

**Main library:**

Is this specific to the veterinary training establishment: No

Is this common to two or more establishments?: Yes, it’s common to all faculties of the university

Full time equivalents of part time employees

Number of full-time employees: 7 employees

Number of journals received each year as hard copies,

Total number of journals: 1,663

Veterinary journals: 58

Numbers of full access electronic journals

Total number of electronic journals: 1,465

Veterinary electronic journals: 46

Availabilities for online literature search

Access to several general databases belonging to the library and other external resources with a data base

Primo Central.

Availability of textbooks

Veterinary medicine textbooks: 1,445

Total No. of textbooks: 60,000

Number of student reading places: 640
Library opening hours:
During term time on weekdays: 08:30 - 22:00
During term time at weekends: usually, Saturdays 9:00 - 14:00 and during examination times
Saturdays and Sundays 10:00 - 22:00
During vacations: the library is open in July from 8:30 - 17:30 and closed in August.

Indicate how the facilities are used by students.
The students use all of the Library facilities and it’s heavily used by students at the weekend in during exam periods.

Subsidiary libraries of the Faculty
Please describe the subsidiary (e.g. Departmental) libraries of the Faculty, and arrangements for student access.
There are not any subsidiary libraries; it is a main library.
Indicate whether the main library holds a list of individual books held in the subsidiary libraries.
Describe any other information services and how they are supported and how student access is regulated.

8.2. COMMENTS

Please comment on the adequacy of the books and accessible journals, of the opening hours and of the provision of reading spaces and support personnel.
The Library provides all the books that professors request and provides online access to all the journals requested by the professors.
The opening hours and the provision of reading spaces and support personnel are sufficient for all the students.
Please comment on the Faculty’s provision of IT facilities, the approach to self-learning and on the further developments in this area.
70
8.3. SUGGESTIONS
9. CHAPTER 9. ADMISSION AND ENROLMENT

9.1. FACTUAL INFORMATION

9.1.1. STUDENT NUMBERS

Table 9.1.1. Undergraduate students

<table>
<thead>
<tr>
<th>Total number of undergraduate students</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male students</td>
<td>218</td>
</tr>
<tr>
<td>Female students</td>
<td>454</td>
</tr>
<tr>
<td>National students</td>
<td>594</td>
</tr>
<tr>
<td>Foreign students</td>
<td>78</td>
</tr>
<tr>
<td>- from the European Union</td>
<td>69</td>
</tr>
<tr>
<td>- from non-EU member countries</td>
<td>9</td>
</tr>
<tr>
<td>First-year students</td>
<td>240</td>
</tr>
<tr>
<td>Second-year students</td>
<td>193</td>
</tr>
<tr>
<td>Third-year students</td>
<td>147</td>
</tr>
<tr>
<td>Fourth-year students</td>
<td>92</td>
</tr>
<tr>
<td>Fifth-year students</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 14- Undergraduate students
Table 9.1.2. Postgraduate students

<table>
<thead>
<tr>
<th>Total number of postgraduate students</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male students</td>
<td>5</td>
</tr>
<tr>
<td>Female students</td>
<td>9</td>
</tr>
<tr>
<td>National students</td>
<td>14</td>
</tr>
<tr>
<td>Foreign students</td>
<td>0</td>
</tr>
<tr>
<td>- from the European Union</td>
<td>0</td>
</tr>
<tr>
<td>- from non-EU member countries</td>
<td>0</td>
</tr>
<tr>
<td>First-year students</td>
<td>14</td>
</tr>
<tr>
<td>Second-year students</td>
<td>0</td>
</tr>
<tr>
<td>Third-year students</td>
<td>0</td>
</tr>
<tr>
<td>Fourth-year students</td>
<td>0</td>
</tr>
<tr>
<td>Fifth-year students or higher.</td>
<td>0</td>
</tr>
</tbody>
</table>

Total number of students in the faculty (a+n): 686.

9.1.2. STUDENT ADMISSION

State the minimum admission requirements.
Outline any selection process (or criteria) used in addition to the minimum admission requirements.
9.1.2.1. Accessible information systems prior to enrolment and welcome and guidance schemes available to new students

The ideal profile for incoming students is defined by the degree’s Director of Studies. In the case of the degree in Veterinary Medicine, the following admission profile is proposed:

The student must have a number of skills which will facilitate their integration both into the University during their training period and subsequently into professional life:

- interest in Health Sciences;
- consistent work and organised mind;
- interest for animal problems;
- ability to deal with emergency situations;
- decision-making and self-criticism skills;
- willingness to form interpersonal relationships and work in a team;
- observation, information research and analysis abilities;
- high sense of ethics and personal and professional responsibility.

Ideally, they should also have taken the health sciences option in their baccalaureate studies.

As referred to in the official documentation on entrance rules for the degrees taught at Universidad Alfonso X el Sabio, the suitability of a potential student’s profile is determined in a process that can be summarised in three stages:

1. Psychopedagogical evaluation of various skills required of a university student, depending on the studies which they have chosen and the prior knowledge required to successfully take those studies.

2. Level test in the foreign language chosen by the student.
3. Session for didactic and informative purposes on the option chosen by the student.

The channels used to communicate internal and external information about the objectives of the training programme, incoming and outgoing student profiles, subject programmes and the enrolment process are:

1. Newspaper adverts.
6. Attendance at training/education fairs, similar to the AULA fair.
7. Computer terminals in the halls of the University buildings.
8. Degree course notice boards in the University lobbies.
10. In-person information days: activity which is part of the *promotional Saturdays*. Details on this channel of information are provided in a work instruction under the title *Material for promotional Saturdays (IT027)* from the UAX Quality Management System. The aim of these measures is to enable potential students and their families to make contact with the University before taking the decision to enrol and to resolve any doubts that they may have about enrolment. They are given all the necessary information on the degree and the enrolment process.

The procedures and specific guidance activities for welcoming new students are also covered in a technical instruction from the QMS of the UAX (IT40). In the second week of September, the University's general secretary sends an introduction letter about the start of the year to new students. On the first day of the academic year, new students are greeted by the Director of Studies of their degree programme in the auditorium in order to welcome them, present the degree course and offer the University services. The content is
described to them and they are given the *Useful information guide (What to do? Who to ask? Where to go?*) which explains what to do during the first few days of lessons, how to find information, study methods, how and where to create an email account to access the University network and explains what tutorial actions and consultation services are, as well as the student and family assistance service, the professional guidance office, the university halls of residence, directories, how to reach the University and the directory of all the offices/departments in operation in the University.

9.2.2 Special entry conditions or tests

To gain entry to certain degrees offered by the Universidad Alfonso X el Sabio, two types of entry tests may be used. On the one hand, there are "general" tests which all students sit and, on the other, there are specific tests which are only set for some of the degree courses.

The general tests have been described in the previous section and, as indicated there, comprise a psychopedagogical evaluation of the different skills required of a university student, depending on the studies they have chosen and on the prior knowledge required to successfully take those degree programmes; a level test in a first foreign language chosen by the student and an informative guidance session on the vocational option chosen by the student. In all cases, these are not eliminatory tests in their own right but intended to be informative.

The specific tests for entry to the degree in medicine involve an exam which tests knowledge of biology, mathematics, physics and chemistry and an evaluation of the student's previous academic record.

Admission granted in accordance with these criteria ceases to be valid if enrolment in the academic year granted is not formalised.
9.1.2.2. Support and guidance services available to already enrolled students

In addition to specific activities related to mobility and in-company internships, on which students are given guidance and supported by one of the following relevant offices: the Office of International Relations (OIR), the Professional Guidance Office, through regular conferences and presentations in the classrooms themselves; the University has two services focused on supporting and guiding enrolled students, namely the psychopedagogical office and the student and family support and assistance service.

The Psychopedagogical and Guidance Office is open to students to provide them with personalised support and offer them pedagogical and psychological guidance. Taking into consideration the uniqueness of each one of the students, appropriate guidance is provided to help them to achieve good academic performance.

Furthermore, if a student presents signs of personal difficulty, the department identifies problems and offers guidance so that the student may be put in contact with the appropriate professionals, if necessary. The office also informs students of the results of entry tests, processes requests for a change of tutor, runs study technique courses and courses on how to cope with exam stress. Finally, and where necessary, the department is responsible for requesting a change of degree course for a student after holding a personal interview with them.

The student and family care and assistance service assists each student or group of students in those aspects of University life in which an initiative may be taken, a discrepancy may arise or clarification may be required.

Students may submit their complaints and try to find solutions in line with the UAX criteria of justice, fairness and in accordance with regulations. It also helps parents of students that have requested assistance, by providing them with suitable information and guidance, receiving any suggestions, doubts, problems, clarifications etc. that they may have or require.
9.1.2.3. Proposed system for transferring and recognition of credits

The UAX has adopted and published adapted rules based on Royal Decree 1393/2007 on the transfer and recognition of credits, which is outlined in the following articles.

Article 1. Transfer of credits.
1. Transferring credits involves including all the credits that a student has previously obtained on official education courses, in the same or another University that have not resulted in the award of an official degree, in the student's official academic documents.
2. The University will transfer all the credits obtained by their students to their academic record in accordance with the provisions of the previous paragraph.

Article 2. Recognition of credits.
1. Recognising credits involves the University accepting credits which, having been obtained on official education courses, in the same or in another University, are calculated as other distinct education courses for the purposes of obtaining an official degree.
2. The recognition of credits from official university Degree courses must respect the following basic rules:
   a) Provided that the destination degree belongs to the same branch as the degree of origin, the credits corresponding to basic training in that branch will be recognised.
   b) Credits corresponding to other basic training subjects belonging to the destination degree will also be recognised.
   c) The remaining credits will be recognised by the university taking into account the relation between the skills and knowledge associated with the remaining subjects taken by the student and
those planned in the study programme, or those which are transversal.

4. Credits from official master’s degree courses will be recognised taking into account the relation between the skills and knowledge acquired from education completed and the skills and knowledge planned in the study programme of the relevant education courses.

Article 3. Request for credits to be recognised.
1. Students must make a request for credits to be recognised.
2. At the beginning of each academic year, the University will specify a period during which requests for credits to be recognised should be submitted.
3. Requests for credits to be recognised will be resolved and applicants informed of the results by the University's validation committee.
4. Students that are not satisfied with the outcome of their request to have credits recognised may make a request to the rector to have the record reviewed, within 15 days from the day after the notification of the outcome was received.
5. The rector’s decision may be appealed to the courts under contentious-administrative jurisdiction, according to current legislation.

Article 4. Recognition of credits from participation in university cultural, sporting, student representative, solidarity and cooperation activities.

Students may receive academic recognition in the form of credits for participation in university cultural, sporting, student representation, solidarity and cooperation activities, up to a maximum of 6 credits out of the total number in the study programme of the degree course studied.

This type of academic recognition in the form of credits must be requested by the interested student, who must provide documentation proving their participation.
At the beginning of each academic year, the University will specify a period during which requests should be submitted.

The rector will grant the recognition by evaluating their participation in terms of quantity and quality, as well as their achievements and purposes.

*Describe whether students applying for and/or starting veterinary training have an equal or very variable knowledge base in scientific disciplines from their previous studies.*

In general, students have basic knowledge of disciplines related to Natural and Health Sciences, which is equal to the knowledge required to pass the higher baccalaureate and the University entrance examination.

*Indicate whether there is a limit to the number of students admitted each year.*

120 places are offered each year.

*Describe how the number of government-funded student places is determined.*

There are no government-funded student places. Scholarships are granted by the town council of Villanueva de la Cañada.

Grants are also awarded by the Santander bank.

*Describe any circumstances under which extra students may be admitted to the undergraduate veterinary course.*

Students enrolled in other faculties may be admitted on a course transfer.

*Outline any changes foreseen in the number of students admitted annually. If applicable, describe how the Faculty plans to adjust to these changes.*

120 students are admitted each year; the total number of 672 is due to an increase in the number of students admitted on course transfers from other faculties.
9.2. STUDENT FLOW

Table 9.3.1. Student flow
Out of the students admitted in year N-5 (a. in table 9.2) the following are currently enrolled (five years later) in the various years:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>1</td>
</tr>
<tr>
<td>Second</td>
<td>7</td>
</tr>
<tr>
<td>Third</td>
<td>12</td>
</tr>
<tr>
<td>Fourth</td>
<td>30</td>
</tr>
<tr>
<td>Fifth</td>
<td>100</td>
</tr>
</tbody>
</table>

How many students have graduated?
103
How many left or were asked to leave the University?
How many are not in an identified year?

Table 16 - Student flow

Table 9.3.2. Number of students that have graduated each year in the last five years

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of students that have graduated</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (2013)</td>
<td>103</td>
</tr>
<tr>
<td>N-1 (2012)</td>
<td>107</td>
</tr>
<tr>
<td>N-2 (2011)</td>
<td>86</td>
</tr>
<tr>
<td>N-3 (2010)</td>
<td>99</td>
</tr>
<tr>
<td>N-4 (2009)</td>
<td>90</td>
</tr>
</tbody>
</table>

Table 17 - Number of students that have graduated each year in the last five years

* Data of student graduates refer to the licentiate degree in Veterinary Medicine. There are ninety 5th-year degree students.
Table 9.3.3. Average duration of studies

In the case of students graduating in 2013, how many students have been taking veterinary training courses for 5, 6, 7, 8, 9, 10 or more years?

<table>
<thead>
<tr>
<th>Duration of studies</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 years</td>
<td>0</td>
</tr>
<tr>
<td>5 years</td>
<td>90</td>
</tr>
<tr>
<td>6 years</td>
<td>0</td>
</tr>
<tr>
<td>7 years</td>
<td>0</td>
</tr>
<tr>
<td>8 years</td>
<td>0</td>
</tr>
<tr>
<td>9 years</td>
<td>0</td>
</tr>
<tr>
<td>10-13 years</td>
<td>0</td>
</tr>
<tr>
<td>More than 13 years</td>
<td>0</td>
</tr>
<tr>
<td>Average duration of studies of students graduating in year N</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Table 18 - Average duration of studies

Describe the requirements (in terms of completing subjects and examinations) for progression to a subsequent year of the course.

Describe the academic circumstances under which the Faculty would oblige students to leave the course.

In order to enrol for Medical Pathology, Surgical Pathology and Surgery, Anaesthesiology and Diagnostic imaging, students must have passed: Anatomy, Physiology, Physiopathology and Clinical Propaedeutics.
9.3. COMMENTS

1. Comment on the standard of the students starting the course.
2. Comment on the ability of the Faculty to satisfactorily decide the number of students it can accept.
3. Comment on the factors that determine the number of students admitted.
4. Comment on the adequacy of the facilities and teaching programme to train the existing number of students.
5. Comment on the progress made by students in their studies, and the Faculty's ability to ensure that satisfactory progress is maintained.
6. Comment on the percentage of students that will eventually graduate.

1. Students that commence studies have passed the Spanish selectividad university entrance examinations.
2. There are 120 student places on the Veterinary Medicine degree course.
3. The number of students admitted has not exceeded the quota.
4. The facilities and academic programmes have been optimised to suit the number of students, although the highest number of repeating students are in the first few academic years.
5. The work of the tutors and the psychopedagogical office is important for the achievement of academic objectives.
6. It is estimated that around 60 degree students will graduate in the 2013-2014 academic year. This number represents 66% out of a total 90 students in the 5th year, completing the degree studies in 5 years.
9.4. SUGGESTIONS

If you are not satisfied with the situation, please state in order of importance any suggestions that you may have concerning this Chapter in relation to:

- The number of students admitted;
- the drop-out percentage;
- the average duration of studies;
- other aspects.

The number of students admitted is within the acceptable ranges.

The drop-out percentage is around 30 students, who transferred to other Veterinary Medicine faculties, due to financial problems.

On the undergraduate course, 66% completed their studies in 5 years.

The results are the first ones obtained for the BSc-equivalent study programme.
10. CHAPTER 10. ACADEMIC AND SUPPORT STAFF

10.1. FACTUAL INFORMATION

Table 10.1. Faculty staff

<table>
<thead>
<tr>
<th>1 Academic staff</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Teaching staff</td>
<td>132</td>
</tr>
<tr>
<td>b) Total academic staff</td>
<td>132</td>
</tr>
</tbody>
</table>

2. Support staff
c) Animal care coordinator  

5  

d) Coordinator of practical and teaching preparation for classes 

10  

e) Coordinator of the administration of general services, maintenance etc.  

25  

f) Other (Library, Publications, Cleaning, Surveillance, Sport, University Information Service, Cafeteria)  

20  

g) Total no. support staff 

67  

3. Total staff (d+j)  

199  

Table 19 - Faculty staff  

Table 10.2. Allocation of staff to the various departments  

<table>
<thead>
<tr>
<th>Module</th>
<th>Subject</th>
<th>FTE LECTURERS</th>
<th>PT LECTURERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common basic training</td>
<td>Animal Anatomy</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Biology</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Biochemistry</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Physiology</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Physics and chemistry for</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Department</td>
<td>Full-time Equivalent Teachers (FT)</td>
<td>Part-time Teachers (PT)</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------------------</td>
<td>-------------------------</td>
<td></td>
</tr>
<tr>
<td>Clinical sciences and animal health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immunology and genetics</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnology and business management for veterinary medicine</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deontology, legal medicine and veterinary legislation</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological agents</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Changes to structure and function</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Diagnosis foundations</td>
<td>6</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Therapy</td>
<td>1</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Obstetrics and reproductive pathology</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Animal health</td>
<td>3</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Animal production</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Hygiene, technology and food safety</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Elective subjects</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Supervised externships</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Final year project</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL**                                      **132**

*Table 20 - Allocation of staff to the various departments*

**FT:** Full-time equivalent teachers  
**PT:** Part-time teachers

**Table 10.3: Staff responsible for training undergraduate students**

<table>
<thead>
<tr>
<th>A.</th>
<th>Number of staff involved in the teaching of undergraduate students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>130</td>
</tr>
</tbody>
</table>

*Indicate whether there are difficulties in recruiting or retaining staff.  
Describe (if appropriate) any relevant trends or changes in staff levels or the ability to fill vacancies over the past decade.*
Indicate whether it is easy to employ additional staff from service income (e.g. from revenues of clinical or diagnostic work).

Describe the regulations governing outside work, including consultation and private practice, by staff working at the establishment.

Describe the possibilities and financial provisions for the academic staff to:
- a) attend scientific meetings
- b) go on sabbatical leave

Academic staff have the right to attend scientific meetings to complete their training and report on the results of their research, and for which there are no obstacles, unless the staff member has teaching obligations which are not covered in their department or knowledge branch.

With regard to financial provisions for attending these events, they usually come from research project funds granted to academic staff and are therefore usually private funds. As a form of assistance, the university may cover travel expenses if certain requirements are met (for example, that the event takes place during teacher training time).

The University offers teaching staff the chance to undertake externships at different training centres, whether through teacher exchange programmes (FUAX) or through agreements made with specific centres.

10.2. COMMENTS

Comment on the numbers of personnel in the various categories.

Teaching staff: 185/80
Support staff: 185/67

Table 10.2: Allocation of academic (veterinarian and non-veterinarian) teaching staff - expressed as FTE - and support staff to the various departments
Ratios: From the above data please delineate the following ratios

Table 10.3: Ratios students/staff

<table>
<thead>
<tr>
<th>Denominator</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>no. total academic FTE in veterinary training&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>130</td>
<td>1</td>
<td>4.24</td>
</tr>
<tr>
<td>no. undergraduate veterinary students&lt;sup&gt;2)&lt;/sup&gt;</td>
<td>552</td>
<td>4.24</td>
<td></td>
</tr>
<tr>
<td>no. of total FTE at Faculty&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>199</td>
<td>1</td>
<td>2.77</td>
</tr>
<tr>
<td>no. undergraduate students at Faculty</td>
<td>552</td>
<td>2.77</td>
<td></td>
</tr>
<tr>
<td>no. total VS FTE in veterinary training&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>20</td>
<td>1</td>
<td>27.6</td>
</tr>
<tr>
<td>no. undergraduate veterinary students&lt;sup&gt;2)&lt;/sup&gt;</td>
<td>552</td>
<td>27.6</td>
<td></td>
</tr>
<tr>
<td>no. total VS FTE in veterinary training&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>20</td>
<td>1</td>
<td>5.15</td>
</tr>
<tr>
<td>no. students graduating annually</td>
<td>103</td>
<td>5.15</td>
<td></td>
</tr>
<tr>
<td>no. total FTE academic staff in veterinary training&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>130</td>
<td>1</td>
<td>1.53</td>
</tr>
<tr>
<td>no. total FTE support staff in veterinary training&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>199</td>
<td>1.53</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1)</sup> applies only to those Faculties which offer additional courses to the veterinary curriculum, <sup>2)</sup> Table 9.3  <sup>3)</sup> Table 10.1

Comment on the salary levels, especially those of academic staff in relation to the level of income in the private sector.

The salary level of university teachers is low compared to other liberal professions, civil servants at the same level in other administrations and other European colleagues.
Comment on the ease or difficulty of recruiting and retaining personnel.

It is not difficult to recruit academic staff; they may be outstanding students who start their teaching career starting from the bottom (scholars, assistants etc.), and continue receiving training until they read theses and complete sufficient teaching, research and assistance curricula, both nationally and internationally, in order to be granted permanent positions.

Retaining staff is not difficult either, as cases of staff voluntary resigning are virtually non-existent.

Comment on the percentage of veterinarians in the academic staff.

The percentage of veterinarians on the academic staff is very high (80%). Non-veterinary academic staff generally teach the basic subjects: Mathematics, Physics, Chemistry or Biology, for example.

The fact that the numbers of academic staff who have been trained as veterinarians is so high is a good reflection of the centre's approach to training that is very clearly focused on Veterinary Medicine training, with a veterinary vision of problems.

10.3. SUGGESTIONS

If the ratios in your Faculty are not meeting the "satisfactory" range as indicated in the table in Appendix I, what can be done to improve the ratios?

Evaluation and quality improvement procedures for teaching and teaching staff.

The quality objectives of the Universidad Alfonso X El Sabio for teaching and for teaching staff are part of the general and specific objectives defined in the QMS Quality Manual. There are two types of objectives at the UAX:
- General: these objectives are agreed upon by the administration board and developed by the quality committee at the start of the year, with managers, resources and time frames allocated or set. These objectives are consistent with the quality policy. Objectives are monitored at the quality committee meetings.

- Specific: these objectives are linked to key and support processes, defined in the organisation's map of processes in which there are different types of monitoring indicators, which are linked to these objectives, for the activities carried out by the organisation, such as process indicators and customer satisfaction indicators.

They all have corresponding objectives, which are set by the quality committee and accepted by the process owners and made known to the different people involved and/or taking part in them. The results achieved are monitored in the quality committee and the process follow-up committee.

The teaching staff planning process is defined in the *TPU Teachers Planning (PR0103)* as part of the *Academic Course Planning (PR01)* process. It begins with vacancies (profiles or number) being identified by the manager of the Teaching Planning Unit (TPU). Once it has been announced and approved by the University rectorate, a public offer for places is published in the press and on the University website.

Teaching staff recruitment is based on a work instruction called *Criteria for Teaching Staff Planning (IT004)*. This work instruction specifies the criteria that teachers presenting themselves for the places offered by the University must meet: academic degree, theoretical and practical knowledge, pedagogical knowledge, teaching experience, professional experience, availability to adapt to the UAX's own policies, research etc.

At least on a three-monthly basis the processes monitoring committee looks at the results achieved and, annually, the quality committee plans the activities which will be monitored with the relevant measurements (indicators), which are drawn from the process documentation. Said documentation is conveyed to the organisation and particularly to the owners named for each one.
of the processes that make up the management system, together with the relevant objectives that must be met.

All the indicators are consolidated in the process indicators table, which, as with all other documentation, can be accessed on the network information system for reference and information purposes for all members of the organisation.

The ultimate aim of this planning is to demonstrate and control the compliance of the services performed, ensure compliance with the Quality Management System and its continual improvement.

The quality committee organises the measurements which are going to be used to measure satisfaction through the relevant indicators, which may be of three different types and form the teaching staff evaluation.

- Interviews with customers, held regularly with the teaching staff evaluation. In this questionnaire (FPR04T) the following topics are evaluated: interest for the subject, its relevance, the use of support material, the teacher’s punctuality, the ability to convey knowledge, the method followed etc.

- Process/services parameters which are measured internally and are directly related to customer satisfaction through the Complaints, appeals and suggestions that are submitted to the Student and Family Assistance Service following a pre-established format (FPR22A).

- Evaluation performed by each Director of Studies on teachers in their degree course at the end of each quarter, and in which aspects such as teaching skills, versatility, assistance provided to students, assumption of responsibilities, fulfilment of teaching and contractual obligations and scientific production are evaluated. This evaluation is described in a work instruction in the QMS called "Teaching Staff Evaluation Criteria (IT013)."

All the information obtained is analysed by the QTU director, by the relevant owners and presented at the quality committee in order to adopt the relevant action plans in line with the results achieved. At the same time, the
University uses this information as a reference in order to implement their teaching staff promotion and recognition policy.

Teaching staff training is covered in the QMS by the Staff Training (PR14) process. This process arises from a request from the training coordinator, to deans/directors on the teaching staff training needs. Based on this information, the training coordinator draws up the annual training plan which is implemented once it has been approved.

The QMS also provides for a process called Research (PR21), the aim of which is to improve teaching through experiments performed and publications prepared. This process runs from the application for a research project or research permission to the formation of a doctoral thesis jury, including the request for travel expenses and permissions.

The Quality Management System (QMS) of the Universidad Alfonso X El Sabio (UAX), in line with the ISO philosophy of the organisation's continuous improvement, provides for the evaluation of learning in the teaching process (process PR04 Teaching) through the Quality Committee (Reviewed by Management).

The process owner (person responsible for the process) analyses and evaluates the performance of the process which concerns the degree (process follow-up protocols). The Quality Committee analyses all the processes which have a cross-cutting effect on a degree so that plans of action may be drawn up resulting in an improvement in the degree's study programme.
11. CHAPTER 11. CONTINUOUS EDUCATION

Picture 20- Students at work at Veterinary Faculty
11.1. FACTUAL INFORMATION

11.1.1. TRAINING DEVELOPMENT COURSES HELD IN THE FACULTY

Continuous education enables academic staff to publicise and convey their work to recent graduates and new professionals, in terms of disseminating the results of their research project and providing an incentive for courses that address current issues or specialisation courses.

As a result of the intense research work carried out by academic staff, clinical work and other activities in our Faculty, many continuous training activities have been organised in recent years aimed at students, recent graduates, veterinarians and other professionals involved in Health Sciences or agri-food fields. These courses have been organised both by the Faculty and by other bodies.

Table 11.1.1. Courses organised by the faculty in recent years (indicate the year).

2008
1 - Oncology in small species course.
   Dr. Fernando Vázquez Fernández.
   Dr. David Sardón Ruiz.
   Dr. Noemí del Castillo.
   Prof. Alicia Sánchez Sánchez-Vizcaíno.

2 - Conference on Veterinary pharmacovigilance.
   Ramiro Casimiro and Remedios Ezquerra. AEMPS.

3 - Anti-parasitic therapy in reptiles conference.
   Dr. Juan Carlos Fontanillas. UCM
2009

Repercussion of the use of antibiotics in veterinary medicine conference.
   Ms. Consuelo Rubio. AEMPS.

2010

1 - Discussion days on new veterinary techniques.
2 - Conference on Veterinary Pharmacovigilance.
   Ramiro Casimiro and Remedios Ezquerra. AEMPS.

2011

1 - Early diagnosis of gestation in small animals.
   Simon Martí
   Sergio Monteagudo.

2 - Acupuncture and traditional Chinese veterinary medicine.
   José Zilberschtein Juffe

3 - Armed forces innovation conference
   Fernando Saura

4 - Conference on Veterinary pharmacovigilance.
   Ramiro Casimiro and Remedios Ezquerra. AEMPS.

5 - Pharmacology and cardiac therapy in veterinary medicine.
   Dr. María Dolores San Andrés Larrea. UCM

2012

1 - Workshop on cardiopulmonary resuscitation simulation in veterinary patients.
   Dr. Daniel Fletcher.
   Dr. Isabel Rodríguez Hurtado.
   Dr. Verónica Salazar.
2 - *History and heritage of veterinary medicine conference.*
   Dr. Joaquín Sánchez Delollano Prieto.

3 - *Options in locoregional tumour therapy.*
   Dr. Michele Steffey.
   Dr. Verónica Salazar.

4 - Conference on equine nutrition (*Feeding problems and practicalities*).
   Dr. Catherine Dunnett.

5 - Conference on *Veterinary pharmacovigilance.*
   Ramiro Casimiro and Remedios Ezquerra. AEMPS.

Table 11.1.2. Courses organised by the faculty the previous year.
2013
1 - Course on Head and neck surgery in equine animals
   Juan Muñoz Laurent
   Raquel Gómez

2 - Basic course on mechanical ventilation.

3 - Conference on *Experimental animals in research on leishmaniosis.*
   Dr. Javier Nieto. Carlos III Health Institute.

4 - Conference on *Experimental studies in veterinary pharmacology.*
   Dr. Manuel San Andrés Larrea. UCM

Table 11.1.3. Courses organised in the faculty by student associations in recent years.
Table 11.1.4. Courses organised by external bodies in recent years (indicate the year)

2011
1 - Laser surgery course: electrosurgical equipment. BRAUN.

2 - Horse dentistry course. EQUINVEST and HORSE DENTAL.
   Jorge Sánchez Sánchez.
   Jaques Leclair.

2012
1. Conference. *What does it mean to be a veterinarian in the 21st Century?*
   Gonzalo Giner.

**Comment on the degree of participation of faculty teaching staff in the continuous education programmes organised by external bodies.**

The academic staff in our Faculty are frequently involved in continuous education programmes organised by external bodies, as speakers, members of the organisation or scientific committee.

**11.1.2. DISTANCE LEARNING (INCLUDING VIA INTERNET)**
If the faculty is involved in distance learning, please provide an overview of its nature and scope.

**11.2. COMMENTS**

*Comment on the quality of the continuous education programmes in which the Faculty is involved.*
*Comment on the degree of participation of veterinarians in the continuous education programmes in which the Faculty is involved.*
The veterinarians participate in continuous education through:
- Externships at various national and international faculties, for example the Faculty of Veterinary Medicine of Barcelona, Faculty of Veterinary Medicine of Extremadura, Cornell University (USA) and the Davis School of Veterinary Medicine (USA).
- Conferences, seminars on the internet on various specialisation topics.
- Scientific participation in congresses.

11.3. SUGGESTIONS
It is suggested that continuous education is maintained and increased.
12. CHAPTER 12. POST-GRADUATE EDUCATION

12.1. FACTUAL INFORMATION

12.1.1. CLINICAL POST-GRADUATE TRAINING (INTERNS AND RESIDENTS)

The Department of Medicine and Surgery and the Veterinary Teaching Hospital offer specialised clinical training for veterinarians. There are two different types of specialised master's degree programmes: the rotating internship masters in large or small animals (one year long), and specific residency masters in the various veterinary specialties (three years long).

Table 12.1.1: Clinical postgraduate master training

As for the rotating internship master's degree, interns perform clinical activities in the area in which they practise, learning diagnostic techniques or treatment used in their field. They are part of a rotation system around the various departments in their field, including medicine, surgery, anaesthesia, hospitalisation and emergencies. They receive both theoretical and practical training during these weeks on topics related to their speciality field in the form of core classes offered by different specialists, seminars based on cases treated at the Veterinary Teaching Hospital, or group discussions on articles and relevant publications. All staff at the hospital attend these sessions (interns, veterinarians and teachers assigned to the various departments at the Veterinary Teaching Hospital).

Regarding the residency master's degree, residents perform clinical activities in their area of specialty (medicine, surgery or anaesthesia), sharing responsibility for implementing diagnostic techniques or treatment used in their field. They participate in on-call emergency assistance together with a veterinarian assigned to the department. They receive both advanced theoretical and practical training during the courses on topics related to their specialty in the form of core classes offered by different specialists, seminars based on cases treated at the Veterinary Teaching Hospital, or group
discussions on articles and relevant publications. All staff at the hospital attend these sessions (residents, veterinarians and teachers assigned to the various departments at the Veterinary Teaching Hospital).

The residents must complete both a master’s in research methodology in Health Sciences in their first year and a final master’s project. In the following two years, they must undertake a research project leading to a doctoral thesis. These projects are related to topics of interest to their specialty field. They must also present a communication at a scientific meeting or an article for publication in a specialised veterinary journal on an annual basis.

Table 12.1.1: Clinical master's courses

<table>
<thead>
<tr>
<th>Clinical discipline</th>
<th>Duration of the training</th>
<th>Number of students</th>
<th>Diploma or degree expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equine rotating internship</td>
<td>12 months</td>
<td>5</td>
<td>Intern certificate-diploma</td>
</tr>
<tr>
<td>Small animal rotating Internship</td>
<td>12 months</td>
<td>5</td>
<td>Intern certificate-diploma</td>
</tr>
<tr>
<td>Equine internal medicine</td>
<td>36 months</td>
<td>1</td>
<td>Resident certificate-diploma</td>
</tr>
<tr>
<td>Small animal internal medicine</td>
<td>36 months</td>
<td>1</td>
<td>Resident certificate-diploma</td>
</tr>
<tr>
<td>Anaesthesiology and resuscitation</td>
<td>36 months</td>
<td>2</td>
<td>Resident certificate-diploma</td>
</tr>
<tr>
<td>Equine surgery</td>
<td>36 months</td>
<td>2</td>
<td>Resident certificate-diploma</td>
</tr>
<tr>
<td>Small animal surgery</td>
<td>36 months</td>
<td>2</td>
<td>Resident certificate-diploma</td>
</tr>
</tbody>
</table>

Table 21- Clinical master’s courses

All the scholar-interns/residents receive a salary from the UAX Foundation for the duration of the training programme, in addition to a grant for
enrolment in the master's degree in research methodology and the doctoral programme in the case of residents.

12.2. POSTGRADUATE COURSES

12.2.1. Master's degree
Title: University Master's Degree in Research Methodology in Health Sciences.
Faculty offering the degree: School of Health Sciences.
Type of learning: In-person.
Number of places: 25.
Languages in which the course is taught: Spanish as the vehicular language; English, French, German and Italian as instrumental languages for the training process.

The purpose of master's degree education is for the student to receive advanced training tailored towards professional specialisation or to encourage their introduction to research work.

The purpose of doctoral education is to provide the student with advanced training in research techniques, including the preparation and presentation of the doctoral thesis, consisting of an original research project.

In addition, the University Master's Degree in Research Methodology in Health Sciences (MSc) at the UAX enables the student to receive broad training in research, biostatistics and experimental sciences. The MSc at the UAX enables the student to receive broad training in research, biostatistics and experimental sciences.

The UAX master's programme is the training period that introduces the students to the research period preceding the defence of the doctoral thesis. Students will acquire solid theoretical and practical training in research techniques in Health Sciences, irrespective of their original degree.

This Master's Degree in Research Methodology in Health Sciences enables students to develop a research career, become involved in R+D+i projects and to transform the production model.
The Master's Degree in Research Methodology in Health Sciences was launched in the 2009/2010 academic year.

Student profiles

The Master's Degree in Research Methodology in Health Sciences is aimed at post-graduate students that have the ability to study, a willingness to work and a vocation for research in health sciences. It is essential for incoming students to have an open mind to changing content, given the constantly evolving nature of scientific knowledge. It is worth highlighting three specific characteristics of the students’ profiles: perceptiveness, ability to analyse and summarise in order to draw conclusions on work performed and, of course, creative and innovative spirit with regard to the evolution of technological and social progress. Skills such as memory and information retention are also considered to be important. Mastery of language is also viewed as essential for this training as in this research master's degree programme, special emphasis is placed on publishing and disseminating study results, for example by taking part in meetings and seminars and publishing in peer-reviewed and high-impact national and international journals.

The impact of the work that students enrolled in this research master's degree course perform requires a high level of responsibility, an ethical and social approach to their behaviour, willingness to form interpersonal relationships and work in a team, as well as a clear interest for research in the scientific/technical field compared to other motivations.

Basic minimum guaranteed degree skills

- Students will know how to apply the knowledge acquired and their ability to solve problems in new or unfamiliar environments within wider (or multi-disciplinary) contexts related to their field of study.
- Students will be capable of incorporating knowledge and dealing with the complexities of forming judgements on the basis of information which, while possibly incomplete or limited, includes reflections on
social and ethical responsibilities linked to the application of their knowledge and judgements.

- Students will know how to convey their conclusions and the knowledge and their background to specialised and non-specialised audiences alike, clearly and without any ambiguity.

- Students will have learning abilities that will enable them to continue studying in a largely self-directed or independent manner.

Depending on the option chosen by the student, and taking into account their prior training, they may also acquire the skills defined below.

**Statistics applied to research**

- Appropriate planning of statistical studies based on data collection relating to an R&D&i project.

- Minimise and make rational use of resources available for carrying out statistical analysis that would make it possible to assess the results obtained in an experimental way.

- Develop and understand original research methodology, based on statistical analysis of different variables, which would deliver a reliable result under a set of starting conditions, delivered in such a way that the results would be worthy of authoritative publication nationally and internationally.

**Factorial design of experiments**

- Coherent planning of studies based on experimentation with processes and procedures to form an R&D&i project.

- Minimise and make rational use of resources available for performing an experiment which would deliver an optimal number of results in order to reach relevant conclusions.

- Demonstrate systematic understanding of factorial design techniques and master their application in experiment planning within research fields under study.
- Demonstrate the ability to devise, design, implement and adopt a research method to assess the variables being studied, in order to obtain responses that are able to model a process carried out in an experimental facility.

**Historical approach to science methodology**

- Acquiring knowledge on the evolution of the sciences.
- Being able to link and compare scientific systems in their historical evolution and identify and interpret scientific phenomena in line with their evolutionary process.
- Be able to integrate different scientific systems into a specific historic interpretation.

**Speciality languages**

- Acquire knowledge of the major tools, such as terminology and lexicography databases from various sectors for application in research languages.
- Be able to describe and characterise the linguistic characteristics of speciality texts.
- Master the specific techniques of each type of language and identify recurrent discursive and structuring characteristics in the textual genres specific to each of the speciality fields.
- Forming terminology units and conducting terminology management work and mastering the main theoretic and practical content for using and managing terminology.
- Developing the linguistic abilities required to write speciality texts.
- Analysing texts from different speciality fields and determining their qualities and failings, according to parameters studied from different linguistic perspectives.
- Developing linguistic and interdisciplinary research projects with different types of specialised language.
13. CHAPTER 13. RESEARCH

Picture 21- Research area
13.1. FACTUAL INFORMATION

Indicate the involvement of undergraduate students in research, including the time spent, percentage of students involved and outcome required.

Students may collaborate in three ways in research activities carried out in the Faculty:

1. As a student intern.
2. Through collaboration grants.
3. Through voluntary work.

1. Student intern

Each subject department publishes an annual call for student interns interested in the research conducted within it. After their internship, their merit is recognised during their training. The appointment of a student intern has an effect on the academic year in which they were selected. A student may only be appointed as an intern in a department within a single academic year. Students interns are not entitled to remuneration or a salary for their work.

The percentage of students who take part in the research activities in the departments as student interns is 15% and therefore some of them may collaborate actively in the monitoring of clinical cases and take part in areas of research, performing tasks assigned to them in line with their ability, training and interest.

The time that students devote to this work is determined by the teachers acting as their mentors. The activities that they perform during this period are very useful for their training. Some of the students are those which, having finished their studies, show interest in completing their postgraduate education with research activities.
2. Collaboration grants

There are grants provided by the town council and the University. Students receiving such grants assist in various tasks, especially in the Veterinary Teaching Hospital.

3. Voluntary work

For students who are interested in taking part and collaborating in research projects with a specific department, it is also possible to work on a voluntary basis without their being a previous established form that the work should follow. In such cases, the student communicates their interest to the teacher coordinating the research group and establishes, and an activity is scheduled. As a result of their participation, the student receives a report from the teacher on the activities performed.

13.2. COMMENTS

Comment on the opportunities for students to participate in active research work.

Students have the opportunity to participate in research.

13.3. SUGGESTIONS

Will students be given more opportunities to participate in research activities? If so, how will this be done?

We take the view that students have opportunities to participate in research projects in the departments in the manner described above.

Following the academic phase, the following possibilities exist: students may perform work as interns at the Veterinary Teaching Hospital in the various departments (for 1 year), or take a master's degree in the different departments (3 years).
FACULTY OF VETERINARY MEDICINE - VETERINARY TEACHING HOSPITAL
Universidad Alfonso X El sabio
EDITORIAL COMMITTEE
Dr. Sonia Rubio Large
Dr. Verónica Salazar Nussio
Dr. Isabel Rodríguez Hurtado
Dr. David Sardón Ruiz
Dr. José Luis Rodríguez Marín Roy
Dr. Luis Ángel López Tomás
Dr. Fernando Vázquez Fernández
April 2014

Self Evaluation Report
EAEVE Visit, November 2014
## APPENDIX 1

<table>
<thead>
<tr>
<th>NAME</th>
<th>PROVINCE</th>
</tr>
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<tbody>
<tr>
<td>SERVICIOS VETERINARIOS NANCLARES</td>
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</tr>
<tr>
<td>ACADEMIA TÉCNICA UNIVERSITARIA, S. L.</td>
<td>Burgos</td>
</tr>
<tr>
<td>ANGULEMA SERVICIOS MÉDICOS, S. L.</td>
<td>Álava</td>
</tr>
<tr>
<td>ANUBIS CLÍNICA VETERINARIA, C. B.</td>
<td>Madrid</td>
</tr>
<tr>
<td>AONYX CLÍNICA, S. L.</td>
<td>Madrid</td>
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<tr>
<td>SPANISH ASSOCIATION OF BEEF PRODUCERS</td>
<td>Madrid</td>
</tr>
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<td>BIOSISTEMAS INTEGRALES, S. L.</td>
<td>Madrid</td>
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<tr>
<td>CALIDAD ALIMENTARIA DEL OESTE, S. L.</td>
<td>Cáceres</td>
</tr>
<tr>
<td>CEDEVET VETERINARIA S. L.</td>
<td>Seville</td>
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