

### 3. Curriculum

#### 3.1. Factual information

##### 3.1.1. Description of the educational aims and strategy in order to propose a cohesive framework and to achieve the learning outcome.

Spanish legislation (see 3.1.2) describes the condition necessary for the design and implantation of every *curriculum*. In particular, those Degrees leading to a regulated profession, such as that of Veterinary Surgeon, include specific definitions of Competences that have to be included in the *curriculum* design. Specifically, in Veterinary Medicine, it is mandatory to meet certain ‘minimum training requirements’ as described in Article 38 of the EU Directive 2013/55/EU. Therefore, the Veterinary Medicine *curriculum* at the ULPGC provides assurance that the professional graduated has acquired the following knowledge and skills:

- (a) *adequate knowledge of the sciences on which the activities of a veterinarian are based and of the European Union law relating to those activities*
- (b) *adequate knowledge of the structure, functions, behaviour and physiological needs of animals, as well as the skills and competences needed for their husbandry, feeding, welfare, reproduction and hygiene in general*
- (c) *the clinical, epidemiological and analytical skills and competences required for the prevention, diagnosis and treatment of the diseases of animals, including anaesthesia, aseptic surgery and painless death, whether considered individually or in groups, including specific knowledge of the diseases which may be transmitted to humans*
- (d) *adequate knowledge, skills and competences for preventive medicine, including competences relating to inquiries and certification*
- (e) *adequate knowledge of the hygiene and technology involved in the production, manufacture and putting into circulation of animal feedstuffs or foodstuffs of animal origin intended for human consumption, including the skills and competences required to understand and explain good practice in this regard*
- (f) *the knowledge, skills and competences required for the responsible and sensible use of veterinary medicinal products, in order to treat the animals and to ensure the safety of the food chain and the protection of the environment.*

The professional competences are, in a practical way, subclassified into Nuclear, Transversal and Specific competences. The list of codes and definition of these competences is included in ANNEX X. All these competences were distributed in the different subjects when the *curriculum* was designed and is detailed in ANNEX IV.

The ULPGC Veterinary Medicine *curriculum* was designed according to the ULPGC Regulation for the design of *Curricula* (see 3.1.2.) and proposed for approval to the Faculty Board. After an internal procedure in the ULPGC, the new *curriculum* was sent to the Canary Islands Government and, later, to the Ministry of Education of the Spanish Government. The design of the *curriculum* must agree with the ANECA protocol for the design of *curricula* ([VERIFICA](#) program).

The new *curriculum* (*Grado*, ANNEX IV) is measured in ([ECTS](#)), so the workload of the students is one of the cornerstones of the design of the *curriculum*. In the ULPGC, **1 ECTS is equivalent to 25 hours of activity of the students** and includes two main kind of activities:

- **On-Site** (*Presencial*): which includes face-to-face sessions with the academic staff and, depending on the core subjects, varies from 50 to 60% (12,5 - 15 hours/ECTS). The main on-site activities are master classes, practical training (classroom, computer room, labs, clinical, ... both intramural and extramural), assessment and tutorials.
- **Non On-Site** (*no presencial*): hours devoted to self-directed learning and autonomous study. These activities vary from 50-40% in the different subjects (12.5 - 10 hours/ECTS).

The ANECA protocol includes the following criteria: general **description** of the degree (1), relevant **justification** based on research and scientific experience (2), **objectives** which are appropriate for the development of the competences defined for the students (3), a clear system for **access and the admission of students** (4), a well-structured and coordinated **study plan** (5), adequate academic and support **staff** (6), appropriate **facilities and material resources** (7), expected **academic results** (8), a **Quality Assurance System** (9) and a **schedule** for its application and revision (10).

After this external evaluation, the new *curriculum* was launched (2010-2011), internally monitored every year, externally monitored every 3 years ([MONITOR](#) program) and completely externally revised after every 6 years ([ACREDITA](#) program).

Therefore, there is a cyclical process of internal and external revision of the *curriculum* which can be evidenced by the following actions:

Actions	Agency/ Responsible Body	Date (mm/dd/yyyy)	Result	Document
Design of new <i>curriculum</i>	Curriculum Committee	05.12.2009 (last)	Approved	<a href="#">Link</a>
Approval of new <i>curriculum</i>	Faculty Board	06.22.2009	Approved	
	ULPGC Government Council	12.22.2009	Approved	
External evaluation VERIFICA	ANECA	05.25.2010	FAVORABLE	<a href="#">Link</a>
External evaluation First Evaluation	ACCUEE	06.16.2010	MEETS REQUIREMENTS	<a href="#">Link</a>
Legal approval of new <i>curriculum</i>	Canary Islands Government	11.11.2010	Approved	<a href="#">Link</a>
Legal approval of new <i>curriculum</i>	Ministry of Education Spanish Government	03.16.2011	Approved	<a href="#">Link</a>
Publication of <i>Curriculum</i>	Spanish Official Bulletin (BOE)	10.03.2011	Published	<a href="#">Link</a>
Internal evaluation Annual Report 2010-2011	Dean (SER)	09.28.2012	Approved by Faculty board	<a href="#">Link</a>
External evaluation First Follow-up	ACCUEE	10.09.2013	FAVORABLE	<a href="#">Link</a>
Internal evaluation Annual Reports 2011/2012 and 2012/2013	Dean (SER)	01.29.2014	Approved by Faculty board	<a href="#">Link</a>
Internal evaluation Annual Reports 2013/2014	Dean (SER)	05.09.2015	Approved by Faculty board	<a href="#">Link</a>
Internal evaluation Annual Reports 2014/2015	Dean (SER)	06.10.2016	Approved by Faculty board	<a href="#">Link</a>
Internal evaluation Annual Reports 2015/2016	Dean (SER)	07.26.2017	Approved by Faculty board	<a href="#">Link</a>
External evaluation ACREDITA	ANECA	05.08.2017	FAVORABLE	<a href="#">Link</a>
Minor <i>Curriculum</i> modification	Curriculum Committee	07.04.2017	Approved	<a href="#">Link</a>
Minor <i>Curriculum</i> modification	Faculty Board	07.25.2017	Approved	<a href="#">Link</a>
External Evaluation MODIFICA	ANECA	01.02.2018	FAVORABLE	<a href="#">Link</a>
Internal evaluation Annual Reports 2016/2017	Dean (SER)	03.23.2018	Approved by Faculty board	<a href="#">Link</a>

Every academic year, the Subject Guides are revised in order to guarantee that the competences are fully itemised in learning outcomes as defined in the VERIFICA/MODIFICA process. In every Subject Guide (*Proyecto Docente*) ([link](#)), there is a description of the assigned

competences, the description of the expected learning outcomes, detailed content/topics list, the academic strategies or teaching methods used, the assessment procedure and scoring criteria, the learning plan (including tasks, activities, timeframe and resources), tutorial activities, academic staff (listing the Coordinator and the academic staff responsible for the practicum) and Bibliography /Recommended References. Therefore, every subject must be planned in accordance with the pedagogical bases, design, teaching methods and assessment methods described on page 21 and followings of the Degree project ([link](#) to the last version, January 2018).

The *curriculum* is externally audited (VERIFICA, MONITOR, the ACREDITA programs of the ANECA, in our case through the Canarian Agency for University Quality Assurance and Education Assessment ([ACCUEE](#)). Also, in order to be in accordance with the EU, Spanish and Regional legislation, the Quality Assurance System includes independent revision, both internal (ULPGC Quality Assessment Cabinet) and external ([AUDIT](#) program of ANECA). Quality Assurance System also has procedures for planning actions, processes, annual objectives and goals to maximize strengths rather than try to improve weaknesses and to address the recommendations that have been detected not only in the internal processes, but also in the external evaluations.

### **3.1.2. Description of the legal constraints imposed on *curriculum* by national/regional legislations and the degree of autonomy that the Establishment has to change the *curriculum***

#### ***EU Legislation***

The Degree in Veterinary Medicine offered by the ULPGC is regulated by the [Directive 2005/36/EC](#) of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications amended by [Directive 2013/55/EU](#) of the European Parliament and of the Council of 20 November 2013. This legislation has been transposed to Spanish regulations in the [Royal Decree 1837/2008](#) and is a legal constraint in our *curriculum* design.

#### ***Spanish Legislation***

The main legislation regarding University Studies in Spain is [The Organic Law 4/2007](#), from April 12, which modifies the [Organic Law 6/2001](#), from December 21, of Universities, and the subsequent [Royal Decree 1393/2007](#), from October 29, which establishes the organization of the official university education.

The current *curriculum* ([approved by ANECA](#) on May 25, 2010) is in accordance with the national regulations that establish the *curriculum* conditions leading to qualification for entering the regulated profession of Veterinarian ([Resolution of December 17th, 2007](#), BOE of December 21<sup>th</sup>, 2007) and the Order of the Ministry of Education and Science that establishes the requirements for the verification of the official university qualifications for entering the veterinary profession ([ECI/333/2008](#), BOE of February 15<sup>th</sup>, 2008).

The Degree is included in the Registry of Universities, Centres and Degrees ([RUCT](#)) of the Ministry of Science, Innovation and Universities (former the Ministry of Education, Culture and Sport), with code No. [2501905](#).

According to the ruling of the Spanish Council of Universities, The Degree of Veterinary Medicine awarded by the ULPGC is assigned to level 3 (master's degree) within the Spanish framework of qualifications for higher education (MECES) ([link to the notification](#)). This level corresponds to level 7 of the European Qualifications Framework (EQF); therefore, our graduates can be admitted into the Doctorate program directly without any other training requirements.

### ***The Canary Islands Legislation***

The main legislation is the [Decree 168/2008, of July 22](#), by which the requirements and evaluation criteria for the authorization for the implementation of the official degrees in the Autonomous Community of the Canary Islands is regulated.

### ***The ULPGC Regulation***

The ULPGC Statutes, the ULPGC Official Bulletin and the Inner ULPGC Regulations are updated and compiled by topic on a separate ULPGC Website ([Link](#)).

In relation to the design of the *Curriculum*, the main ULPGC regulation is the [Regulation for the design of the Official Degrees](#). This regulation includes several constraints such as the number of credits for every subject, the total amount of credits for every semester, the credits for the EPT and for the Final Degree Project, etc.

### ***QAS and Legislation***

All the legislation that affects the Degree and the QAS is centralized on the ULPGC Vice-Rectorate of Quality Assurance web site. [Link](#)

### ***Monitoring of the Curriculum***

Since the implementation of the *curriculum* in 2010/2011, the QAS of the Faculty require a monitoring process of the Veterinary Degree ([PAC08](#)).



### **3.1.3. Description of how curricular overlaps, redundancies, omissions and lack of consistency, transversality and/or integration of the *curriculum* are identified and corrected.**

The ULPGC has a Regulation for Academic Planification. The Faculty has included this regulation in the [PCC02](#) procedure defined in the QAS. The procedure describes the different activities and a timeframe for every stakeholder. Before April 30<sup>th</sup>, the Departments must send to the Faculty the Subject Guide for every subject. The Vice-Dean of Academic Planning checks every project and writes a report that includes the legal requirements, the assignation of competences, expected learning outcomes, assessment procedures, etc. After this revision procedure, the report is sent to the subject coordinator and the project is sent to the Committee of Academic Affairs. The Committee must approve the Subject Guides before May 20<sup>th</sup>. Vertical coordination as a means to prevent overlapping, redundancies and omissions, as well as to ensure a suitable integration of the *curriculum* is studied by the Committee. After the final approval of the Subject Guides, they are communicated to students, staff and external stakeholders by their publication on the ULPGC Website ([link](#)).



Also, every year there is horizontal coordination of the subjects in order to complete the timetable for the next year. The coordinators of the subjects that share the same students in the same semester draw up the timetable for every week in order to ensure better organisation of the student's agenda. After this procedure, all the information is completed in the 'Academic' software, the online platform for the academic organisation of the Faculty.

The institutional procedures of the QAS for the Measurement of Satisfaction ([PI16](#)) and for the evaluation of the teaching activity of the academic staff ([PI07](#))




include the feedback from the main stakeholders: students, teachers, departments and faculty ([DOCENTIA](#) program).



Using the results from these surveys the ULPGC prepares a report that is sent to the Faculty for the improvement of the teaching activities. This information is specifically used in the [PAC08](#) procedure for the analysis of the results completed every year by the Faculty. Also, the information provided by the QAS procedure for the management of irregular academic incidents ([PAC06](#)) is taken into account because the students are able to provide information about deficiencies in teaching activities using these different procedures.



### 3.1.4. Description of the core clinical exercises/practicals/seminars prior to the start of the clinical rotations

An intensive clinical rotation system is included in the 5<sup>th</sup> year of the *curriculum*. Therefore, the core clinical exercises/practicals/seminars included in the different subjects are described as follows:

#### Third year:

[42518 - Physiopathology](#) – Students collect blood samples from different species (goats, sheep and cows) and carry out blood and urine analyses using the basic techniques in the clinical lab (haematology -red and white series-, coagulation tests, clinical Biochemistry, clinical enzymology and Urine analysis). Students write a laboratory report with the results of the clinical analyses. (Total = 20 h)

[42520 - Propaedeutic and Clinical Pathology](#) – Students perform clinical examinations in every domestic species (16 h): clinical examination in a cow (3.5h), a horse (3.5h), general and ophthalmological examination in small animals (3h.), neurological and cardiological examinations, including ECG, in dogs (3h) and abdominal ultrasound examination in dogs (3h). These activities take place in the Veterinary Teaching Hospital. Students practice with the interpretation of the clinical haematological, biochemistry and urine analysis results (9h). This activity takes place in the VTH clinical lab. Also, students practice the writing of clinical reports

[42524 - Radiology](#) – Students learn about the basic operation of the equipment and accessory materials most commonly used in diagnostic imaging, including the radiological security protocols, and practice the placement and management of patients (12 h.) This activity takes place in the VTH and is supplemented by participation of the students in the management of the patients and clinical cases. Also, students learn about the radiological semiology of different systems, as well as the normal appearance in contrast to physiological and pathological variations (12 h.) This activity is carried out in the computer room.

[42519 - General Pathology](#) – Students perform the necropsy technique in domestic species in the necropsy room (6 X 3.5h = 21h.). This involves study of histological preparations of the different lesional processes, with the presentation of images with the corresponding macroscopic alterations (15 h., including the evaluation). This activity is completed in the microscopy room.

[42521 - Infectious Diseases I](#) – Students visit a ruminant farm (4 h). Herd Health recheck and application of treatments are carried out. Vaccination and the California test for the detection of subclinical mastitis and treatments are performed.

[42525 - Infectious Diseases II and Ichthyopathology](#) – Students undertake a visit to an intensive poultry farm (3 h); they visit the Animal Shelter for taking samples (2 X 2h) and perform the preventive medicine plan in small animals at the VTH (2 X 2h). In relation to Ichthyo-pathology, the students perform a fish necropsy and do a sample collection (3 h.), complete the diagnosis and characterization of the pathogenic agents of bacterial, viral and fungal aetiology in the Lab (3 h.) and visit to an aquaculture farm where they apply on-site health programs: they also conduct control measures for the most common diseases in aquaculture (4 h).

[42522 - Parasitic diseases](#) – Students visits 4 different farms and evaluate the characteristics of each farm, their infrastructure, their management, the sanitary status of the animals, etc. (4 X 3.5h) They collect samples for subsequent analysis in the laboratory (4 X 2.5h). Also, clinical practice with Ichthyo-parasitology (3h) is completed in which the methods of collecting samples

in fish, along with the processing and identification of the main parasites that affect the host species of our environment are included.

**42523 - Marine Mammals Health and Fish Pathology** - Students perform the necropsy technique in marine mammals (3.5 h) and fish (2.5 h). The study of histological preparations of the different microscopic lesions in marine mammals (7 h) and fish (4.5 h) is guided using the multi-headed microscope available in the microscopy room. Also, learning the pathology diagnosis of marine mammals and fish is included with the presentation of images and scanned slides with the corresponding macroscopic alterations (3.5 h) in the classroom.

#### **Fourth year.**

**42528 - Anaesthesiology and Surgery I** – Students learn the rules of the facilities of operating theatres and surgical instruments. Students practice using asepsis protocols and preparation of the surgical field, patient and surgeon. The practical activities are the following: fundamentals of inhalational anaesthesia; anaesthetic machinery and respiratory circuits (4h); practice in the skills of suturing: with suture material and instrumental management, along with the application of skin suture patterns mostly using carcasses (4h); reconstruction surgery with practice in the surgical treatment of defects and cutaneous reconstruction using cadavers (3h); principles of traumatology and introduction to osteosynthesis methods involving placement of osteosynthesis systems on a plastic model; and instrumentation and equipment (4h). All these workshops take place in the clinical skills labs. Two sessions (6 h) of Traumatology Clinical Cases, and an introductory clinical rotation (4 h) in the Surgery Service at the VTH are also scheduled.

**42533 - Surgery II** – The students have been scheduled for 6 clinical workshops (19 h) in the Clinical Skills Lab with carcasses: 1. *Ophthalmological Surgery* (3h): flap of the Nictitating Membrane. Entropion Ectropion; 2. *Thoracic Surgery* (3h): Thoracotomy Thoracic drains. Lobectomy; 3 & 4. *Abdominal and Digestive Surgery* (3 + 4h): Exploratory Laparotomy Procedure. Enterotomy Enterectomy Gastrotomy Suture Techniques; 5. *Management of the surgical patient I*. (3 hours); and *Management of the surgical patient II* (3 hours). Two introductory clinical rotations in the Surgery Service (3h) and in the Ophthalmology Service (3h) are also scheduled.

**42532 - Special Pathology** – The following activities are scheduled for the students: macroscopic diagnosis (3.5 h) at the beginning of the semester for the correct description of macroscopic lesions (descriptive pathology); discussion of macroscopic lesions images and their differential diagnoses: 5 sessions (3 h.) + 4 sessions (2.5 h); necropsies and viscera exposure: (6 X 3.5 h, including evaluation); study of the cases received in the Pathology Department, description of the lesions and relationship with the clinical history in order to establish the diagnosis of the disease; writing an anatomopathological report and preparation of samples for complementary tests; likewise, a description of the main injuries observed in organs confiscated in the slaughterhouse or organs from the necropsy room and kept in fixative liquids is performed; microscopic diagnosis (3 h): samples of cytology, biopsies or representative necropsies received in the service of pathological anatomy are histologically analysed in order to introduce students to the dynamics of work in a pathological anatomy laboratory and to relate the macro and microscopic lesions studied; diagnosis of clinical cases (3.5 h) to be analysed with corresponding academic staff, along with the diagnosis of the assigned case in the seminar in order to prepare its presentation and public defence.

**42534 - Preventive Veterinary Medicine** – The students assess the location of the farm and its surroundings. They check the existing biosecurity measures of the farm and provide improvements. They also audit the livestock facilities in relation to hygienic-sanitary and zootechnical measures to increase its sanitary status, optimization and economic benefits. Students are required to define a complete vaccination program for the farm in question.

**42529 - Toxicology** – Students practice the clinical management of animal intoxications in workshops. They focus on the study of anamnesis results, differential diagnosis, complementary tests, toxicological diagnostic tests, treatment and prognosis in real clinical case studies (4 X 3h).

**Fifth year.**

**42539 - Reproduction and Obstetrics I** – Small Ruminants: control of the cycle, oestrus detection, semen collection, evaluation and conservation, artificial insemination, pregnancy diagnosis, control and attention of the birth and the new-born. Bovine: rectal examination, genital and artificial insemination, and other clinical aspects related to reproduction. Rabbits: control of the cycle, pregnancy diagnosis, partum and postpartum. Birds: control of the laying, insemination, incubation, and care of the new-born. These activities are completed in the Faculty Farm, Cabildo Farm. External Farms: the clinical reproductive aspects of any species.

**42542 - Reproduction and Obstetrics II** – Reproductive Clinic in Small Animals: surgical sterilization. Collection and semen assessment. Vaginal cytology. Clinical consultation at the VTH. Reproductive Clinic in Large Animals at the VTH.

### **3.1.5. Description of the core clinical rotations and emergency services and the direct involvement of undergraduate students in it**

Clinical Rotations are completed during the fifth year and they include the following subjects:

**42538 - Internal Medicine I** – Each student completes 25 h. of clinical training in 6 sessions, consisting of medical care of ruminants, equines and other large animals. Most of the patients are treated at the farms, but treatments are also completed intramurally in those cases received at the VTH. An average of 8 students per group has been scheduled for the last three academic years.

**42541 - Internal Medicine II** – Each student completes 25 h. of clinical training in 6 sessions, consisting of rotations in Dermatology Service (1), Neurology Service (1), Internal Medicine/Endocrine Service (3) and Cardiorespiratory Service (1). An average of 6 students per group has been scheduled for the last three academic years.

**42540 - Clinical Practices** – A total of 100 hours of clinical training is scheduled in this obligatory subject. 75 h (20 sessions) are completed in the VTH rotating in the different clinical services. 17 h (4 sessions) in the Pathology Diagnostic Service and 8 h (2 sessions) in the Infectious Diseases Diagnostic Lab. VTH rotations are divided into the following clinical services: Dermatology, Ophthalmology, Cardiorespiratory, Surgery, Reproduction, Internal Medicine, Traumatology and Oncology.

Also, Intramural Clinical Training is part of the subjects **42543 External Practices and Mobile Clinics I** and **42544 External Practices and Mobile Clinics II** (total 240 hours). These subjects also include External Practical Training – EPT (100 hours) but in this section, only the **Intramural Clinical Training** are described as defined by SOP (140 h). In these subjects there are 4 blocks: (A) Rotation in the Large Animals Mobile Clinics at the VTH (25h), (B) Rotation in the Emergency Service at the VTH (90h), (C) Rotation at the Slaughterhouse (25h) and (D) External Practical Training (EPT) (100h).

The students actively participate in the diagnostic work-up and management of patients in the clinical services. The activities completed by the students are described and assessed using the **Portfolio** in order to guarantee that the day-one skills are completely evaluated. The book is handed out to the students the first day of the fifth year. The portfolio can be signed in any of the clinical activities scheduled and throughout the last year.

#### **(A) Rotation in the Large Animal Mobile Clinics at the VTH.**

A total of 25 hours per student is scheduled in the VTH Mobile Clinics. A visit to a Poultry farm, a visit to a Porcine farm and three visits to Ruminant farms (mainly dairy cattle) with five different veterinarians are completed. These veterinarians are specialists and work full-time with these species in real practice. The VTH contracts out these veterinarians and students attend the clinical

activities in groups of a maximum of three students.

### **(B) Rotation in Emergency Service at the VTH.**

A total of 10 sessions (90 hours) per student are scheduled at the VTH. Students must attend the Emergency Service in groups of 2 students per sessions during 6 nights shifts (2 at weekends), 2 mornings at weekends and 2 afternoons at weekends. The session is scheduled on the 'Academic' platform, and the competences are described and assessed using the portfolio and attendance is controlled by interns. Also, every student is responsible for their day-one competence portfolio. They are in charge of completing the portfolio in order to guarantee the day-one skills that should be evaluated by clinicians, including Emergency Service.

All the information about the Clinical Practices, Clinical Rotations, including the schedules and student behaviour standards, biosecurity and welfare rules and responsibilities, is published on the Faculty Website and is reinforced and applied in every teaching room or farm by the academic staff ([link](#)).

### **3.1.6. Description of the teaching in slaughterhouses and in premises for the production, processing, distribution/sale or consumption of food of animal origin**

#### **Second year.**

**Food Technology.** Laboratory practical training: students perform analytics on meat products (10.5h). Viscosity in food Technological application in the food industries. (4h) Physical-Chemical Properties of Milk (10.5h). Physicochemical properties of honey and elaboration of mead (4 h). Quality control of Wheats and Flours (4h) and Visits to food industries (9h). The average size of the groups is 9-10 students.

#### **Fourth year**

**Food Hygiene and Protection.** Laboratory practical training: students perform the preparation of culture media for the microbiological analysis of food, water and surfaces, which they carry out by means of traditional or automated methods, in stages, until a final result is obtained. They also work with control protocols for food reception (labelling) and physicochemical water analysis. A sanitary hygienic interpretation must be given, including the writing of reports with the results (14h). The activities in food establishments for collectives consist of the application of kitchen hygienic self-control (3.5h) and a plan for Cleaning, Disinfection and Deratization (3.5h). The average size of the groups is 8-9 students.

**Food Hygiene, Inspection and Safety.** Laboratory practical training: students perform the application of quality control and fraud detection protocols in food: milk and dairy products, oils, fish, eggs, and preserves (11 h). The extramural practice consists of the inspection and hygienic control of agri-food industries (3h + 3.5h) and food markets (3h + 3.5h). The hygienic faults detected and the measures to be corrected must be written in their protocols. The average size of the groups is 7-8 students. Also, antemortem and post-mortem inspection in slaughterhouses (cattle, goats, swine, poultry and rabbits) is carried out (5h). The average size of the groups is 1-2 students.

#### **Fifth year**

**(C) Slaughterhouse rotation.** During the fifth year, all the students are scheduled to complete 25 hours (5 days in 1 week) at the Gran Canaria Slaughterhouse directly supervised by the Official Veterinary Inspectors (along with part-time academic staff) in groups of 3 students. The activities completed by the students are described and assessed using the [Portfolio](#) in order to guarantee that the day-one skills are fully assessed.



### 3.1.7. Description of the selection procedures of the Electives by the students and the degree of freedom in their choice

Students, depending on their own interest, are able to freely choose one of the following subjects in the fifth year:

**42546 - Small Animal Clinical Rotation** – A total of 100 hours of clinical training is scheduled in this elective subject. The activity is centred on Small Animals. 75 h (20 sessions) are completed in the VTH divided into different clinical services. This involves 17 h (4 sessions) in the Pathology Diagnosis Service and 8 h (2 sessions) in the Infectious Diseases Diagnostic Lab. VTH rotations are divided in the following clinical services: Dermatology, Ophthalmology, Cardiorespiratory, Surgery, Reproduction, Internal Medicine, Traumatology and Oncology.

**42547 - Large Animal Clinical Rotation** – A total of 100 hours of clinical training is scheduled in this elective subject. The activity is centred on Large Animals, with 75 h (20 sessions) to be completed in the VTH divided into Ruminant clinical services (48h), Equine clinical service (15h) and the Reproduction Unit at the Faculty Farm (12h). 17 h (4 sessions) in the Pathology Diagnosis Service and 8 h (2 sessions) in the Infectious Diseases Diagnostic Lab are also required.

### 3.1.8. Description of the organisation, selection procedures and supervision of the EPT

The EPT forms part of the subjects ‘External Practical Training and Mobile Clinics I’ and II (total 240 hours). These subjects also include intramural clinical training (140 h), but in this section, only **(D) External Practical Training (EPT)** as defined by SOP (100 h) will be described.

The students must elect one EPT specialty in order to complete 100 hours during the last year (fifth year). The student freely elects depending on their professional interests:

**Clinical Specialty:** since 2010, students can choose from any private veterinary clinic officially registered throughout the Canary Islands based on the agreement signed with the two Canary Islands Veterinary Colleges. Also, any Veterinarian, officially registered in the Canary Islands, can welcome our students and act as ‘company/institutional tutor’. Large, Small, Exotic or Wild Animals or other professional activity related with animals could be chosen (i.e. Clinics, Animal Shelter, Herd Health, Zoo Animals, etc.).

**Food Industry Specialty:** the student is able to practice in companies within the food sector. Due to the learning objectives and the need to write a final report of this practicum, students are advised to attend to Food Industries or Consulting Companies related with the food industry. Also, students do their practicum in public institutions with competences in hygiene, inspection and control of food (public health inspectors, kitchens inspections, etc.) as long as they can meet the learning objectives written in the portfolio. Preferably companies should have a veterinarian on their staff. In the case of not having a veterinarian, the student will be able to carry out the practicum under the supervision of a technician with the aforementioned competences and who will act as ‘company/institutional tutor’.

In either of the specialities, students should contact the clinic/company and apply to be admitted to perform the EPT. The necessary legal documents including insurance, are generated for the students, the ULPGC and the company in question on a specific ULPGC website. The activities which should be carried out at the clinic/company have been designed by the Faculty and are described in the portfolio. With the portfolio, the Faculty empowers the student with the responsibility for their own learning. The external tutor must assess the student using the portfolio and completes a rubric for the evaluation of the transversal competences, including the communication skills, as well as hands-on practical and clinical training in a real-life experience.

The student must write a report that should be presented to their ‘ULPGC tutor’ who is assigned by the Faculty.

The ULPGC have signed agreements for EPT with more than 4,100 companies/institutions in order to guarantee the legal requirements for the EPT that any *curriculum* in the Canary Islands Universities should include. The liaison person with the EPT provider is the Vice-Dean of Students, Mobility and EPT; however, every ULPGC tutor can also perform this duty. In addition, the ULPGC has approved a [regulation for EPT](#), which has been recently revised, and also published on the website and in the BOULPGC. All the management of the EPT is fully described and monitored in the [PCC07](#) included in the QAS and communicated to all stakeholders on the Faculty Website ([link](#)).



As described in the QAS procedure ([PAC06](#)) the student can file a complaint to the Dean’s Office in relation to any irregular academic incident during the EPT.



### 3.1.9. Description of the procedures used to ascertain the achievement of each core practical/clinical activity by each student.

The ULPGC have a [regulation for the evaluation system of the students](#). Also, the [PCC05](#) procedure of the QAS includes the monitoring of the assessment of the students. In every Subject Guide, there is a description of the assessment procedure, assessment criteria and grading systems for the different learning activities defined. The reader can find every [Subject Guide](#) on the ULPGC website. More information about the student’s assessment methods is described in Chapter 8.



As described above, a portfolio has been designed to verify that every student has completed the day-one competences. The portfolio is used for the assessment procedure of the following subjects: 42540 – *Clinical Practices*, 42543 - *External Practicum and Mobile Clinics I*, 42544 *External Practicum and Mobile Clinics II*, 42546 - *Small Animals Clinical Rotation* and 42547 – *Large Animals Clinical Rotation*. Also, there is a assessment requisite which is that of giving in the portfolio to the Faculty Administration Office before the reading and presentation of the Final Degree Project. All the completed student’s portfolios are deposited in the Official Student Academic Archive at the Faculty Administration Office.

As a specific instrument for the student’s assessment during the EPT, the Faculty has designed a [report’s template](#) for the company/institution tutor (non-academic staff member) that includes a rubric for the standardization of the assessment of competences, along with a questionnaire in order to provide feedback to the Faculty. This document is used by the ULPGC tutor (academic staff member) to complete the student’s assessment ([see template](#)) which is the responsibility of the ULPGC tutor. Therefore, the whole EPT assessment gathers information from [portfolio](#) + [company tutor report](#) + [student report](#) + ULPGC tutor interview.

### 3.1.10. Description of how and by who the core *curriculum* is decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The ULPGC has approved several regulations ([link](#)) and institutional procedures ([link](#)) for the design, approval, implementation, review and ongoing quality improvement of programmes, including procedures for the eventual cancellation of specific programmes and for responding to complaints and suggestions. It also has a [Regulation for the Design of the Official Curriculum](#) which includes the requisites for the organization and distribution of subjects, etc. Also, there is a description of the responsibilities of every Committee.

The Faculty has a Committee for the *Curriculum* with representation from the different Departments and Students (see Chapter 1). Although the legal requirements for the design of the *curriculum* introduce many limitations to its structure, all the stakeholders involved are invited to participate in order to guarantee the introduction of every proposal which might possibly contribute to better *curriculum* design. Information provided by the professionals and employers such as reports from the Veterinary Colleges, scientific associations and others are used for improving the design of the *curriculum*. The Committee for the *Curriculum* is responsible for the preliminary cohesive framework design of the *curriculum* that must be studied and approved by the Committee for Academic Affairs; later, the proposed *curriculum* must be presented to the Faculty Board for its approval. After this Faculty activity, the *curriculum* is sent to the ULPGC Academic Committee and, after technical check by the Academic Management Office, the *curriculum* is approved by the ULPGC Government Council.

There is both internal and external evaluation of the proposed *curriculum* (an *ex-ante* evaluation procedure named VERIFICA) in order to guarantee effective design and the fulfilment of formal requirements. The proposed new *curriculum* or modification is sent to the Canary Islands Government for its approval with the report issued by the [ACCUEE](#). [See last report 2010](#). Finally, the revised *curriculum* is sent to the Ministry of Science, Innovation and Universities (former the Ministry of Education) of the Spanish Government for its final legal approval with the report from the National Agency for Quality Assurance and Accreditation ([ANECA](#)). [See last report 2010](#).

The first external evaluation (interim report) of the *curriculum* was completed in 2013 after 3,5 years. This activity was carried out by the ACCUEE in 2013 ([see report](#)). After seven years of implementation (300 ECTS curricula) the *curriculum* needs to be externally revised (*ex-post* evaluation procedure named ACREDITA). This procedure is completed by a joint committee from the external quality agencies ([ACCUEE](#) and [ANECA](#)). [See last report 2017](#). Subsequently, the *curriculum* must be revised every 7 years by those external agencies, therefore in the near future the *curriculum* will need to be revised internally with the participation of all the stakeholders. In addition, in April 2018, the Faculty received the visit of the external evaluation committee appointed by ANECA for the certification of the adequate implementation of our Quality Assurance System ([link](#)) with a positive result ([link](#)). This external evaluation ensures that the internal work undertaken by the Faculty is relevant and carried out according to the set of European quality standards and guidelines (or to any other external quality assurance that the Faculty might undergo).

Our Quality Assurance Systems include procedures that allow us to do systematic and critical analysis of relevant institutional performance indicators throughout self-evaluations. These self-evaluation reports inform about what has been done and allow the Faculty to be able to detect weaknesses, strengths and make recommendations regarding the quality of the programmes. In accordance with the procedures of the Quality Assurance System for compiling and analysing the programme results, every year the Faculty is required to complete a revision of the academic activities in the form of the Annual Report or the Faculty Results ([2016-2017](#), [2015-2016](#), [2014-2015](#), [2013-2014](#), [2012-2013](#), [2011-2012](#), [2010-2011](#)). Also, an annual report for the monitoring of the *curriculum* must be completed if there is no external evaluation at the Faculty; therefore, only the annual report for the *curriculum* has been completed for the years: [2012-2013](#), [2011-2012](#), [2010-2011](#). All these documents are written by the Dean's Office with the help of the ULPGC Quality Assurance Assessment Cabinet, approved by the Quality Assurance Committee and later by the Faculty Board. During these activities, there is also participation from the stakeholders in the revision and assessment of the *curriculum*.

**Table 3.1.1. Curriculum hours in each academic year taken by each student**

Academic Year	A	B	C	D	E	F	G**	H
<i>Year 1 – Semester 1</i>	202	8	394.5	159	2	--	22	787.5
<i>Year 1 – Semester 2</i>	189	22	347.5	78	58	--	18	712.5
<b>Year 1</b>	<b>391</b>	<b>30</b>	<b>742</b>	<b>237</b>	<b>60</b>	<b>--</b>	<b>40</b>	<b>1,500</b>
<i>Year 2 – Semester 1</i>	203	43	401	124	25	--	29	825
<i>Year 2 – Semester 2</i>	182	75	296	89	9	--	24	675
<b>Year 2</b>	<b>385</b>	<b>118</b>	<b>697</b>	<b>213</b>	<b>34</b>	<b>--</b>	<b>53</b>	<b>1,500</b>
<i>Year 3 – Semester 1</i>	172.5	74.5	330	65	--	86	22	750
<i>Year 3 – Semester 2</i>	182	89,5	301	66	22	71	18,5	750
<b>Year 3</b>	<b>354.5</b>	<b>164</b>	<b>631</b>	<b>131</b>	<b>22</b>	<b>157</b>	<b>40.5</b>	<b>1,500</b>
<i>Year 4 – Semester 1</i>	201	47	285	75	33	17	17	675
<i>Year 4 – Semester 2</i>	234	73	353	57	20	69	19	825
<b>Year 4</b>	<b>435</b>	<b>120</b>	<b>638</b>	<b>132</b>	<b>53</b>	<b>86</b>	<b>36</b>	<b>1,500</b>
<i>Year 5 – Semester 1</i>	128	57	255	15	25	245	25	750
<i>Year 5 – Semester 2</i>	89	40	300	--	--	270	51	750
<b>Year 5</b>	<b>217</b>	<b>97</b>	<b>555</b>	<b>15</b>	<b>25</b>	<b>515</b>	<b>76</b>	<b>1,500</b>
<b>TOTAL</b>	<b>1,782.5</b>	<b>529</b>	<b>3,263</b>	<b>728</b>	<b>194</b>	<b>758</b>	<b>245.5</b>	<b>7,500</b>

A: lectures; B: seminars; C: supervised self-learning; D: laboratory and desk-based work, E: non-clinical animal work; F: clinical animal work; G: Tutorial and assessment; H: total

**Table 3.1.2. Curriculum hours in EU-listed subjects taken by each student**

Subjects :	A	B	C	D	E	F	G	H
<b>Basic subjects</b>								
Medical physics	25		56.5	28			3	<b>112.5</b>
Chemistry (inorganic and organic sections)	25		56.5	28			3	<b>112.5</b>
Animal biology, zoology and cell biology	24		35.5	6	6		2	<b>73.5</b>
Feed plant biology and toxic plants	62	5	65.5	24	2		5	<b>163.5</b>
Biomedical statistics	28		56.5	26			2	<b>112.5</b>
<b>Basic Sciences</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
Anatomy, histology and embryology	117	20	262	39	67		20	<b>525</b>
Physiology	83		175	56			3	<b>317</b>
Biochemistry	49	4	93.5	34			7	<b>187.5</b>
General and molecular genetics	61	27	128	54			11	<b>281</b>
Pharmacology, pharmacy and pharmacotherapy	75	48	95	8			9	<b>235</b>
Pathology	183	51	234	46			18	<b>532</b>
Toxicology	36	10	49	26			2	<b>123</b>
Parasitology	30		46	18			5	<b>99</b>
Microbiology	56	22	100.5	16			9	<b>203.5</b>
Immunology	15	6	31	5			1	<b>58</b>
Epidemiology	24		30	18			3	<b>75</b>
Professional communication	5	5	15	4	2			<b>31</b>
Professional ethics	9	3	13				1	<b>26</b>

Animal ethology	6		6				1	<b>13</b>
Animal welfare	21	5	24.5				2	<b>52.5</b>
Animal nutrition	53	7	75.5	44	3		5	<b>187.5</b>
<b>Clinical Sciences</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
Obstetrics, reproduction and reproductive disorders	65	20	94				5	<b>184</b>
Diagnostic pathology	92.5	37	232	69		101.5	10	<b>542</b>
Medicine and surgery including anaesthesiology	139	71	208		8		12.5	<b>438.5</b>
Clinical practical training in all common domestic animal species	12	15	146			581	28	<b>782</b>
Preventive medicine	16	8	37	10		19	2	<b>92</b>
Diagnostic imaging	29	7	43	12		12	3	<b>106</b>
State veterinary services and public health	28	10	25				1	<b>64</b>
Veterinary legislation, forensic medicine and certification	11	1	24	11			1	<b>48</b>
Therapy in all common domestic animal species	38	28	48.5				5	<b>119.5</b>
Propaedeutic of all common domestic animal species	25	18	43			16	4	<b>106</b>
<b>Animal Production</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
Animal Production and breeding Economics	112		131.5	29	22		13	<b>307.5</b>
Animal husbandry	5			5			1	<b>11</b>
Herd health management	13	7	24	12	3		1	<b>60</b>
<b>Food Safety and Quality</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
Inspection and control of food and feed	85		102	11			6	<b>204</b>
Food hygiene and food microbiology	9		23	10				<b>42</b>
Practical work in places for slaughtering and food processing plants					52			<b>52</b>
Food technology including analytical chemistry	45	4	93.5	33	9		3	<b>187.5</b>
<b>Professional Knowledge</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
Professional ethics & behaviour	6	5	12.5				3	<b>26.5</b>
Veterinary legislation	24	15	92	34			5	<b>170</b>
Veterinary certification and report writing	14	10	32	6		10		<b>72</b>
Communication skills	10	19	20.5	2				<b>51.5</b>
Practice management & business		20	21	4				<b>45</b>
Information literacy & data management	4	11	130				29	<b>174</b>

A: lectures; B: seminars; C: supervised self-learning; D: laboratory and desk-based work, E: non-clinical animal work; F: clinical animal work; G: Tutorial and assessment H: total

**Table 3.1.3. Curriculum hours taken as electives for each student**

Electives	A	B	C	D	E	F	G	H
Basic Sciences	-	-	-	-	-	-	-	-
Clinical Sciences	6	-	30	-	-	100	14	150
Animal Production	-	-	-	-	-	-	-	-
Food Safety and Quality	-	-	-	-	-	-	-	-
Professional Knowledge	-	-	-	-	-	-	-	-

A: lectures; B: seminars; C: supervised self-learning; D: laboratory and desk-based work, E: non-clinical animal work; F: clinical animal work; G: Tutorial and assessment; H: hours to be taken by each student per subject group

**Table 3.1.4. Curriculum days of External Practical Training (EPT) for each student**

Subjects	Minimum duration (weeks)	Year of programme
Production animals (pre-clinical)	-	-
Companion animals (pre-clinical)	-	-
Production animals (clinical)	-	-
Companion animals (clinical)	-	-
FSQ & VPH	-	-
Others (Elective in accordance with the interests of student in any activity related with the Veterinary Profession: i.e. Food industry / Private Veterinary Clinics / Animal Shelter / Research Departments / Zoo Clinic, ...)	4-5 Weeks (100 hours)	5

**Table 3.1.5. Clinical rotations under academic staff supervision (excluding EPT)**

Types (Subjects code)	List of clinical rotations (Disciplines/Species)	Duration (days/hours)	Year of programme
<b>Intra-mural (VTH):</b>			
Clinical Practices (42540)	VTH rotations are divided in the following clinical services: Dermatology, Ophthalmology, Cardiorespiratory, Surgery, Reproduction, Internal Medicine, Traumatology and Oncology.	20d/75h	5
	Pathology Diagnosis Service	4d/17 h	5
	Infectious Diseases Diagnostic Lab	2d/8h	5
Internal Medicine I (42538)	Ruminant clinical services	4d/17h	5
	Equine clinical service	2d/8h	
Internal Medicine II (42541)	Internal Medicine, Endocrinology, Neurology, Dermatology and Cardiology Services.	6d/25h	5
Emergency Service (42543 & 42544)	Emergency Service	10d/90h	5
Mobile clinics (42543 & 42544)	Ruminants	3d/15h	5
	Poultry	1d/5h	5
	Porcine	1d/5h	5
FSQ & VPH (42543 & 42544)	Slaughterhouse	5d/20h	5
<b>Electives:</b>			5
Large Animal Clinical Rotation (42547)	Ruminant clinical services	12d/48 h	5
	Equine clinical service	4d/15 h	5
	Reproduction Unit at the Faculty Farm	3d/12 h	5
	Pathology Diagnosis Service	4d/17 h	5

	Infectious Diseases Diagnostic Lab	2d/8h	5
Small Animal Clinical Rotation (42546)	VTH rotations are divided in the following clinical services: Dermatology, Ophthalmology, Cardiorespiratory, Surgery, Reproduction, Internal Medicine, Traumatology and Oncology	20d/75h	5
	Pathology Diagnosis Service	4d/17 h	5
	Infectious Diseases Diagnostic Lab	2d/8h	5
<b>TOTAL</b>	(elective counted only once)	80d/375h	5

**Table 3.1.6. Optional courses proposed to students (non-compulsory).**

The current configuration of the *curriculum* only includes 6 ECTS for elective subjects. No optional courses are proposed as predesigned optional courses.

Different university cultural activities, sports activities, student representation duties, solidarity work and cooperation activities could be recognised instead of the elective subjects (6 ECTS maximum). This is regulated by The [Regulation for the Academic Recognition of Credits for the Participation in University Activities of the Students of the ULPGC](#). However, this student credit recognition procedure has never been applied in our Faculty.

### 3.2. Comments

The last minor revision of the *curriculum* was completed in January 2018. Some suggestions for the improvement of the current *curriculum* have been received during recent years such as the modification of the Final Degree Project assessment procedure, the English Language policy, the percentage of supervised learning activities, and the inclusion of Parasitology in the clinical rotations, among others. However, the external national accreditation completed in 2018 and the ESEVT programmed for February 2019 have delayed the procedure for the complete revision of the *curriculum* as defined in the QAS (PI14). The Veterinary Faculty considers that the information provided in the national (ANECA) and ESEVT reports could give us a valuable feedback for the subsequent revision of the *curriculum*. In this way, we can ensure a thorough and fair revision of the *curriculum* on a cyclical basis.

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In relation to the suggestions in previous final report, a Final Degree Project ‘Trabajo Fin de Grado’ (6 ECTS) has been introduced in the new *curriculum*, which started in 2010-2011. This subject is also linked to a final day-one skills examination using a [portfolio](#) and is prior to the final presentation of the project. This activity is regulated by a [Final Degree Project General Regulation of the ULPGC](#), also by a [Specific Regulation of the Final Project for the Veterinary Degree](#). There is a QAS Procedure ([PCC06](#)) related to this activity.

With regard to vertical coordination as a means to prevent overlapping, redundancies, omissions and suitable integration of the *curriculum*, we might highlight the revision process carried out by the student representatives. Students have occasionally detected deficiencies in the assessment procedures, topic deficiencies and overlapping of topics in the proposed Subject Guides. In those cases, the representatives of the affected subject are informed and the deficiencies have been corrected.

Also, the provision of three official inspectors in the slaughterhouse as members of our Academic

Staff is an important milestone that has been implemented since the last visitation.

Additionally, the inclusion of the EPT in the *curriculum* is mandatory by the Spanish law in order to promote contact between undergraduate students and professionals, as well as to improve employment opportunities. The EPT were included in the previous *curriculum*, therefore, the Faculty already had experience in its management. It is particularly notable that the students are under the direct supervision of a non-academic person in the company/institution (company tutor) and that they also receive tutorial support provided by a member of our academic staff (the ULPGC tutor). Motivated by the reduced number of hours (100h), the student freely elects only one EPT provider depending on their personal and professional interests. The ULPGC offers a wide range of companies/institutions for the EPT which take place under the auspices of legal agreements, including insurance. To standardize the student's assessment, the Faculty has designed a compendium of sources of learning outcomes reports (See 3.1.8 and 3.1.9 above). The company reports provide feedback to the Faculty. This information is analysed by the vice-dean of EPT and shared in the EPT committee.

The previous *curriculum* included many electives subjects. However, the Faculty decided to include only two in the new *curriculum*. This was primarily motivated by the limitation of student enrolment in the most popular subjects and by the limitation of the academic staff with regard to the teaching activity required in compulsory ones.

### **3.3. Suggestions of improvement**

The Spanish Conference of Veterinary Faculties has carried out an in-depth analysis of the Veterinary Medicine education programmes in Spain. Considering the positive experience gained by the implementation of practical rotational periods, a proposal has been made to government decision-makers in the field of education (the Ministry of Science, Innovation and Universities) in order to add one additional semester to the Veterinary Medicine Degree in Spain, which would allow teaching by a system of specialisation, as well as a better redistribution of the overall on-site teaching.