

Degree	Type	Year
2502445 Veterinary Medicine	FB	1

## Contact

Name: Francisco Javier Manteca Vilanova

Email: xavier.manteca@uab.cat

## Teachers

Ramon Casals Costa

Francisco Javier Manteca Vilanova

Maria Teresa Paramio Nieto

Francesc Xavier Such Martí

Maria dels Dolors Izquierdo Tugas

Susana Le Brech

Marta Amat Grau

Ahmed Salama Fadali

Carmen Loreto Manuelian Fuste

## Teaching groups languages

You can view this information at the [end](#) of this document.

## Prerequisites

As it is a first course subject, there are no mandatory prerequisites. Nevertheless, students are advised to go over their knowledge of animal biology and zoology.

## Objectives and Contextualisation

The subject includes two well differentiated parts: ethnology and ethology, which also includes animal welfare. The ethology part includes activities in English, identified in this teaching guide as DA.

Ethnology, which will address the different types of production animals and their breeds, has the following objectives:

1. To understand and use properly the productive and ethnologic terminology.

2. To know the external features of the different domestic species, which will enable the students to identify them and group them in breeds, as well as to evaluate their productive characteristics.
3. To differentiate the main breeds of domestic species used in animal production and relate them with concrete production systems (extensive, intensive, etc.) and/or with certain production objectives (milk, meat, eggs, etc.) according to their production potential.

Ethology, which is the study of animal behaviour, is important because it contributes to the knowledge of the normal functioning of the animal organism. From a professional point of view, ethology is relevant for the following reasons:

1. Usually, the first disease signs in animals are changes in their behaviour. For that reason, knowing the normal behaviour of animals and how this behaviour is modified when animals are ill is important to diagnose diseases.
2. Many aspects of farm animal behaviour have important effects on their production. That is the case, for example, of sexual and maternal behaviour (which condition reproductive efficiency), feeding behaviour (which affects consumption of food and thus the production of meat, milk and eggs) and social behavior (as aggression, which is part of social behaviour, has negative effects on production).
3. The so-called "behavior problems" of companion animals are very frequent and constitute one of the main causes of abandonment and euthanasia of dogs and cats. Furthermore, one of the main behavior problems of dogs is aggression towards people, which is a public health problem in many countries.

In this context, the main objectives of ethology are as follows:

1. To know the normal behaviour of domestic animals and their control mechanisms, and to understand how this behaviour is modified by diseases.
2. To know the relationship between feeding, sexual, maternal and social behaviour, and the production of farm animals.
3. To understand the mechanisms responsible for the so-called behaviour problems of companion animals and the basis of their diagnosis, prevention and treatment.

Animal welfare is an important aspect of the veterinary profession. For example, the European Union has approved several directives that set up the conditions for the protection of agricultural animals on farm, during transport and at slaughter. These directives have had a very important effect on farm animal production. On the other hand, animal welfare is closely link to animal health and production performance, as well as to product quality. Animal welfare is also important in the use of animals in teaching and research procedures, as well as in companion animals.

In this context, the main objectives of ethology in relation to animal welfare are:

1. To understand the concept of animal welfare and its scientific basis.
2. To understand how animal welfare can be assessed with science based, objective indicators.
3. To understand the legal and economic implications of animal welfare.
4. To know the main welfare problems of domestic animals.

## Competences

- Comunicar la informació obtinguda durant l'exercici professional de manera fluida, oralment i per escrit, amb altres col·legues, autoritats i la societat en general.
- Demonstrate generic knowledge of animals, their behaviour and the bases of their identification.
- Demonstrate knowledge and understanding of the aspects of organisation, finance and management in all fields of the veterinary profession.

- Demonstrate knowledge of English to communicate both orally and in writing in academic and professional contexts.
- Recognise ethical obligations in the exercise of responsibilities in terms of the profession and society.
- Treat and handle animals in a safe and humanitarian manner, and instruct other people to properly employ these techniques.
- Work effectively in single or multidisciplinary teams and show respect, appreciation and sensitivity for the work of others.

## Learning Outcomes

1. Communicate information obtained during professional exercise in a fluid manner, orally and in writing, with other colleagues, authorities and society in general.
2. Define the physiology of the stress response and adaptation mechanisms of animals.
3. Define the productive and reproductive parameters of domestic species and their variability between races, choosing the most appropriate race for the different production systems.
4. Demonstrate knowledge of English to communicate both orally and in writing in academic and professional contexts.
5. Identify behavioral changes caused by disease and explain the mechanisms responsible for these changes.
6. Identify the main problems of animal welfare in different production systems and the use of animals for experimental purposes.
7. Identify the mechanisms controlling behavior in mammals and birds.
8. Recognise personal limitations and know when to ask for professional advice and help.
9. Recognize aspects of the behavior of pets that are related to animal production and veterinary medicine.
10. Recognize domestic species, domestication process and the formation of its main races, as well as the productive capacity of these and their morphological differentiation.
11. Recognize the ethical, legal and economic implications of animal protection.
12. Recognize the external morphology of pets and identify different animals morphotypes and their relationship with productive capacity.
13. Using the productive and ethnological terminology correctly and properly, as well as the most important sources of information about the different breeds of domestic animals.
14. Work effectively in single or multidisciplinary teams and show respect, appreciation and sensitivity for the work of others.

## Content

The contents below may be subjected to changes based on the instructions given by the health authorities.

As explained before, this subject includes two different parts: ethnology and ethology, which also includes animal welfare.

### Ethnology

#### Lectures

Ethnology and exterior:

#### 1. Ethnology and breed concept:

Ethnology: concept, contents and objectives. Domestication: concept, origins and conditioning factors. Formation and evolution of farm animal breeds. Breed concept and variety. Breed standards: advantages and disadvantages.

#### 2. Morphological types:

Morphotypes and Biotypes. Productive characteristics and capacity. Ambiental morphotypes. Constitutional Biotypes: meat, milk and others. Barons systematics. Haloids.

3. Animals exterior and phaneroptics:

Morphology: concept and interest. Animals exterior and body regions. Beauty, defects and tares.

Phaneroptics. Classification and study of coats. Coat particularities. Genetics of coat colour.

4. Milk cow breeds and selection criteria:

Ethnology of milk cows.

5. Meat cow breeds and selection criteria:

Ethnology of meat cows. Breed selection.

6. Pig ethnology and genetic lines

7. Bird ethnology and genetic lines

8. Main meat sheep breeds:

Worldwide origin and distribution of the different sheep types. Breeds derived from Merino, French breeds, British breeds, prolific breeds, and Spanish breeds. Productivity improvement. Industrial crossbreedings.

9. Main milk sheep breeds:

Classification of main milk sheep according to area of origin and type of tail. Sheep breeds of high and low milk production, indigenous and foreign species. Possible crossbreeding to increase production.

10. Goat breeds:

Basic types of domestic goats: Alpine, Mediterranean or Asiatic branch. Goat breeds specialized in milk (exotic and autochthonous). Goat breeds with other purposes.

11. Equine breeds:

Equine taxonomic identification. Origin and evolution of horses. Hybrid horses. Productive capacities: saddle and sport, meat and traction. Breed classification of horses: warm blood, cold blood and ponies.

12. Equine breeds (1):

"Arabian" breed and its importance. "English pure breed". "British-Arabian". Spanish saddle horses and other saddle horses. Trotting horses and jumping horses.

13. Equine breeds (2):

Traction horses. Ponies and Spanish ponies. Donkey breeds. Donkey hybrids.

14. Dog breeds (1):

Canine taxonomic classification. Canine origin and evolution. Breed clusters. Canine International Federation (C.I.F.) dog breed classification. Groups I, II, III and IV.

15. Dog breeds (2):

Groups V, VI, VII, VIII, IX i X. Spanish breeds not recognised by the C.I.F.

16. Cat breeds:

Feline taxonomic classification. Feline origin and evolution. Feline breed classification: Cobby and Exotic types. Breeds recognised by the Feline International Federation (F.I.F.). Breeds not recognised by the F.I.F.

Practical teaching and workshops

A) Practical teaching

1. External morphology and zoometry (Practical session 1)

Body regions of domestic animals and morphometric measures: application to equine, bovine, ovine and caprine species. Important particularities and defects of the corporal regions.

2. Chronometry (Practical session 2)

Assessment of animals' age and their variation factors. Dental chronology. Live age determination of several species.

3. Morphological and breed standards assessment (Practical session 3)

Breed standard and morphological assessment of an individual and its relationship with its productive features. Application to the bovine and ovine species.

4. Animal identification (Practical session 4)

Animal identification: importance and evolution. Use of natural features: report making. Identification through artificial methods: ear tags and electronic identification. On farm traceability.

B) Workshops

- Presentation of cooperative learning (Workshop 1)

- Meeting of specialist students with the head teachers of each species (Workshop 2)

Ethology

The contents of ethology are organized in two sections as described below:

SECTION 1. General concepts of Ethology and Animal Welfare

- Objectives of ethology. Relationship between ethology and veterinary practice.
- Control of behaviour. Motivation.
- Development of behaviour. Sensitive periods and learning.
- Animal Welfare: concept and importance.
- Welfare indicators in domestic animals.

SECTION 2. Behaviour and welfare of domestic animals

- Behaviour and welfare of domestic ruminants
- Behaviour and welfare of pigs.
- Behavior and welfare of small ruminants.
- Behaviour and welfare of poultry.
- Behaviour and welfare of horses.
- Behaviour and welfare of dogs.
- Behaviour and welfare of cats.
- Behaviour and welfare of zoo animals

- Behaviour and welfare of laboratory animals

## Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lectures	39	1.56	
Practical session Ethology (dogs)	4	0.16	6, 9, 14
Practical teaching and workshops ethology	9	0.36	
Workshops on practical cases Ethology	4	0.16	
Type: Autonomous			
Cooperative learning Ethnology	15	0.6	
Practical cases Ethnology	20	0.8	
Self-learning	55.5	2.22	

The methodology described below can be modified based on the guidelines given by the health authorities.

Theoretical lectures will be given on-line, with several scheduled sessions to answer students' questions.

The teaching methodology used in this subject will be different in each of the two parts (ethnology and ethology).

### Ethnology:

The pillar of the learning process is the students' work, whereas the mission of the teacher is to help students in their learning by (1) giving them information or showing them the resources where to find it and (2) guiding them to achieve an efficient learning process. According to these ideas, and bearing in mind the objectives of the subject, the course development is based on the following activities:

#### a. Lectures:

The student will acquire his / her knowledge of the subject attending the lectures and complementing them with his / her own work.

#### b. Practical sessions:

There will be 4 practical sessions which will be held on the Teaching Farm of the Vet School. During these practical sessions, students will have hands-on experience with animals, learning their morphologic features and identification.

#### c. Workshops:

A workshop will be devoted to explaining how the cooperative learning works and will enable students to acquire the necessary knowledge about breed identification. Students will be individually and collectively assessed on this knowledge.

In a second workshop the students will gain further knowledge on topics that have not been thoroughly dealt with in lectures, and they will discuss the results of the cooperative learning.

#### d. Cooperative learning:

In order to acquire the required knowledge on breed identification, students will work in groups to learn the features of the main breeds of one given species. The breed list of each species will be proposed by the teaching staff. There shall be a tutor teacher for each species, and he / she shall meet at least once with students.

## Ethology

Two different teaching methodologies will be used: lectures and workshops with small groups of students. Three lectures and two workshops will be in English.

Lectures (22 hours in total) will be used to expose the fundamental contents of the subject. Lectures will be done with visual support (including videos when appropriate). Both the videos and the PowerPoint documents used in lectures will be available in *Veterinària Virtual*. All lectures will begin with an outline and a list of teaching objectives and will end with a summary of the most important points. As far as possible student participation will be promoted. Three lectures will be in English.

The workshops with small groups of students (4 hours) will be used to discuss the practical cases that the students will have studied previously. These cases (a total of 4) will be given to the students at the beginning of the course. Two workshops will be in English.

At the end of the course, the students must submit a work done in groups of two persons. The students will have to choose the topic in between 20 possible topics that will be recommended at the beginning of the course. The students that want to make the final work about another topic, will have to discuss it with the teaching staff.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Assessment

### Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Final essay of ethology	25%	0.5	0.02	1, 2, 4, 5, 7, 6, 9, 11, 8, 14
Group exam on cooperative learning	5%	0.5	0.02	1, 3, 12, 10, 14, 13
Individual test on breed identification	7,5%	0.5	0.02	3, 12, 10
Test exam	62,5%	2	0.08	3, 2, 5, 7, 6, 9, 12, 10, 11, 8, 13

Regardless of whether you choose continuous or one-day evaluation, your final mark for the subject "Ethnology and ethology" will be the average of the mark you will get for Ethnology and the mark you will get for Ethology. However, to pass the subject, each of the two marks must be equal or higher than 5 out of 10.

Marking procedure for students choosing continuous evaluation

### ETHNOLOGY

Your mark will result from two activities:

Exams: you will do a theoretical, individual exam covering the whole course and with a weight of 70% of the final mark of Ethnology. You must obtain no less than 4 out of 10 to average the mark of this exam with the

other evaluation activities. Besides, you will do another individual exam on breed identification where you will be asked to identify the breeds of domestic animals shown through pictures and this will have a weight of 20% of the final mark of Ethnology.

Marking of the cooperative learning: there will be a group session where you will be asked to identify breeds of animals shown through pictures. The mark will be the same for all the students in the group and will have a weight of 10% of the final mark of Ethnology.

You will be considered as "Not evaluable" if you have done marking activities below 85% of the potential final mark of Ethnology.

## ETHOLOGY

The final mark of ethology will be obtained from the grades of two exams, one of which will be held at the beginning of December and the other when classes have finished. Each exam will have 5 questions, each of which will require an answer of approximately half a page. The second exam will cover all the contents of the course.

The final grade will be obtained as follows:  
 $(0.25 \times \text{grade of the first exam}) + (0.75 \times \text{grade of the second exam})$

Students who do not reach 5 when applying the previous formula will be able to take the retake exam.

Students who do not take either exam (December and February) or the retake exam will be considered "non-assessed".

Marking procedure for students choosing one-day evaluation

## ETHNOLOGY

The final mark of Ethnology will be obtained from two exams to be done on the same day. Both exams will be like those for students choosing continuous evaluation, but in this case the theoretical exam will have a weight of 75% and the breed identification exam will have a weight of 25% of the final mark of Ethnology.

## ETHOLOGY

The final mark of ethology will be the mark of the final exam, which will consist of 5 questions, each of which will require an answer of approximately half a page. Students who do not reach a mark of 5 will be able to take the retake exam.

Students who do not take the final exam nor the retake exam will be considered "non assessed".

## Bibliography

### Etnologia:

#### Llibres d'Exterior:

- Aparicio G. 1974. Exterior de los grandes animales domésticos. Ed. Imp. Moderna, Córdoba. : Llibre clàssic d'exterior en llengua castellana. Bàsic per a entendre molts conceptes.
- Miquel P., Puche C. 1994. Pelajes del caballo. Ed. Ediciones el Caballo, Barcelona. : Llibre actual sobre el tema de colors i pelatges del cavall.
- Oteiza J. 1983. Introducción al estudio del exterior del caballo y del toro. Ed. CECSA, México. : Llibre d'exterior d'equins i bovins.
- Sánchez A. 1981. Identificación Animal. Ed. Publicaciones de Extensión Agraria, MAPA, Madrid. : El llibre més complert en castellà sobre metodologies d'identificació clàssiques. No contempla la identificació electrònica.



- Selga I. 1991. Identificació equina per ressenya descriptiva i gràfica. Departament d'Agricultura, Ramaderia i Pesca de la Generalitat de Catalunya. Quaderns de Divulgació 29. : Llibre d'exterior en català, que pot ajudar a l'alumne en les qüestions terminològiques i de identificació del cavall.

#### Llibres d'etnologia General:

- García M.A., Martínez S., Orozco F. 1990. Guía de campo de las razas autóctonas de España. Ed. Alianza, Madrid. : Llibre sobre les principals races autòctones espanyoles.
- Mason I.L., 1984. Evolution of domesticated animals. Ed. Longman, Londres. : Un llibre clàssic i força interessant sobre les teories filogenètiques de les diverses races de les espècies domèstiques.
- Sañudo C., Forcada F., Cepero R., Thos J. 1986. Manual de diferenciación etnológica. Ed. Librería General, Zaragoza. : Manual senzill, molt ajustat a l'assignatura, ja que es tracta d'una publicació pensada per a estudiants de Veterinària.
- Sotillo J.L., Serrano V. 1985. Producción Animal: Etnología zootécnica. Tomos I y II. Ed. Tebar Flores, Madrid. : Probablement l'obra més completa sobre Etnologia en llengua castellana. S'adapta molt bé als continguts de l'assignatura.

#### Llibres de races per espècies:

- Blanc H.L. 1987. Guía del caballo y del poney. Ed. Omega, Barcelona
- Sánchez A. 1984. Razas bovinas españolas. Ed. Publicaciones del Servicio de Extensión Agraria, MAPA, Madrid.
- Sánchez A., 1986. Catálogo de razas autóctonas españolas. I. Especies bovina. Ed. Servicio de Publicaciones Agrarias, MAPA, Madrid.
- Sánchez A., Sánchez M<sup>a</sup>.C. 1986. Razas ovinas españolas. Ed. Publicaciones del Servicio de Extensión Agraria, MAPA, Madrid.
- Esteban C., Tejón D. 1986. Catálogo de razas autóctonas españolas. I. Especies ovina y caprina. Ed. Servicio de Publicaciones Agrarias, MAPA, Madrid.
- Gondrexon A., Brownie I. 1982. Guía de los perros del mundo. Ed. Omega, Barcelona.
- Orozco F. 1989. Razas de gallinas españolas. Ed. Servicio de Extensión Agraria, MAPA, Madrid.
- Pugnetti G. 1985. Guía de gatos. Ed. Grijalbo, Barcelona.

#### Etologia:

- Appleby M C, Mench J A, Olsson I A S and Hughes B O (2011) *Animal welfare* (2<sup>a</sup> Ed.) Wallingford: CAB International
- Carlson N R (2005) *Fisiología de la conducta* (8<sup>a</sup> Ed.) Barcelona: Editorial Ariel, S. A.
- Broom D M and Fraser A F (2015) *Domestic animal behaviour and welfare* (5<sup>th</sup> Ed.) Wallingford: CAB International
- Houpt K A (2005) *Domestic animal behavior* (4<sup>a</sup> Ed.) Oxford: Blackwell Publishing
- Jensen P (ed.) (2004) *Etología de los animales domésticos*. Zaragoza: Editorial Acribia.
- Manteca X (2009) *Etología veterinaria* Barcelona: Editorial Multimèdica.
- Manteca X (2020) *Bienestar animal* Barcelona: Editorial Multimèdica.
- <http://www.fawec.org> (página web del *Farm Animal Welfare Education Center*; proporciona mucha información sobre bienestar animal y numerosos "links" con otras páginas útiles).

## Software

### Ethnology

### Lectures

1. Ethnology and breed concept: Ethnology: concept, contents and objectives. Domestication: concept, origins and conditioning factors. Formation and evolution of farm animal breeds. Breed concept and variety. Breed standards: advantages and disadvantages.

2. Morphological types: Morphotypes and Biotypes. Productive characteristics and capacity. Ambiental morphotypes. Constitutional Biotypes: meat, milk and others. Barons systematics. Haloids.
3. Animals exterior and phaneroptics: Morphology: concept and interest. Animals exterior and body regions. Beauty, defects and tares. Phaneroptics. Classification and study of coats. Coat particularities. Genetics of coat colour.
4. Milk cow breeds and selection criteria: Ethnology of milk cows.
5. Meat cow breeds and selection criteria: Ethnology of meat cows. Breed selection.
6. Pig ethnology and genetic lines
7. Bird ethnology and genetic lines
8. Main meat sheep breeds: Worldwide origin and distribution of the different sheep types. Breeds derived from Merino, French breeds, British breeds, prolific breeds, and Spanish breeds. Productivity improvement. Industrial crossbreedings.
9. Main milk sheep breeds: Classification of main milk sheep according to area of origin and type of tail. Sheep breeds of high and low milk production, indigenous and foreign species. Possible crossbreeding to increase production.
10. Goat breeds: Basic types of domestic goats: Alpine, Mediterranean or Asiatic branch. Goat breeds specialized in milk (exotic and autochthonous). Goat breeds with other purposes.
11. Equine breeds: Equine taxonomic identification. Origin and evolution of horses. Hybrid horses. Productive capacities: saddle and sport, meat and traction. Breed classification of horses: warm blood, cold blood and ponies.
12. Equine breeds (1): "Arabian" breed and its importance. "English pure breed". "British-Arabian". Spanish saddle horses and other saddle horses. Trotting horses and jumping horses.
13. Equine breeds (2): Traction horses. Ponies and Spanish ponies. Donkey breeds. Donkey hybrids.
14. Dog breeds (1): Canine taxonomic classification. Canine origin and evolution. Breed clusters. Canine International Federation (C.I.F.) dog breed classification. Groups I, II, III and IV.
15. Dog breeds (2): Groups V, VI, VII, VIII, IX i X. Spanish breeds not recognised by the C.I.F.
16. Cat breeds: Feline taxonomic classification. Feline origin and evolution. Feline breed classification: Cobby and Exotic types. Breeds recognised by the Feline International Federation (F.I.F.). Breeds not recognised by the F.I.F.

#### Practical teaching and workshops

##### A) Practical teaching

1. External morphology and zoometry (Practical session 1) : Body regions of domestic animals and morphometric measures: application to equine, bovine, ovine and caprine species. Important particularities and defects of the corporal regions.
2. Chronometry (Practical session 2) : Assessment of animals' age and their variation factors. Dental chronology. Live age determination of several species.
3. Morphological and breed standards assessment (Practical session 3) : Breed standard and morphological assessment of an individual and its relationship with its productive features. Application to the bovine and ovine species.

4. Animal identification (Practical session 4) : Animal identification: importance and evolution. Use of natural features: report making. Identification through artificial methods: ear tags and electronic identification. On farm traceability.

#### B) Workshops

- Presentation of cooperative learning (Workshop 1)

- Meeting of specialist students with the head teachers of each species (Workshop 2)

#### Ethology

Unit 0. Introduction to the subject: objectives, program of lectures and workshops, practical sessions and evaluation.

Unit 1. Objectives and methods of ethology. *Umwelt*. Relationship between veterinary science and ethology. Domestication: concept and behavioural changes caused by domestication.

Unit 2. Concept of animal welfare. Ethical basis of animal welfare. General principles of animal welfare assessment. Behavioural indicators of animal welfare.

Unit 3. Behaviour and welfare of dogs (I): effect of breed on behaviour and welfare.

Unit 4. Behaviour and welfare of dogs (II): effects of neutering on behaviour and health.

Unit 5. Behaviour and welfare of dogs (III): aggressive behaviour.

Unit 6. Behaviour and welfare of dogs (IV): pain assessment and behaviour and welfare problems in geriatric dogs.

Unit 7. Behaviour and welfare of cattle (I): welfare problems related to dairy calf housing and husbandry.

Unit 8. Behaviour and welfare of cattle (II): main welfare problems of dairy cows.

Unit 9. Behaviour and welfare of small Ruminants: maternal behaviour, neonatal mortality and other welfare problems of sheep and goats.

Unit 10. Behaviour and welfare of cats: importance of environmental enrichment. Main welfare problems of domestic cats.

Unit 11. Behaviour and welfare of dogs and cats: welfare at the veterinary clinic.

Unit 12. Behaviour and welfare of horses. Abnormal repetitive behaviours and other welfare problems of saddle horses.

Unit 13. Behaviour and welfare of pigs (I): neonatal mortality, husbandry of piglets and lactating sows, and weaning.

Unit 14. Behaviour and welfare of pigs (II): tail biting, excessive stocking density and other welfare problems at transition and fattening.

Unit 15. Welfare of laying hens and broilers.

Unit 16. Welfare of farm animals during transport and at slaughter.

Unit 17. Welfare of laboratory animals.

## Language list

Name	Group	Language	Semester	Turn
(PAUL) Classroom practices	1	Catalan/Spanish	first semester	morning-mixed
(PAUL) Classroom practices	2	Catalan/Spanish	first semester	morning-mixed
(PAUL) Classroom practices	3	Catalan/Spanish	first semester	morning-mixed
(PLAB) Practical laboratories	1	Catalan/Spanish	first semester	morning-mixed
(PLAB) Practical laboratories	2	Catalan/Spanish	first semester	morning-mixed
(PLAB) Practical laboratories	3	Catalan/Spanish	first semester	morning-mixed
(PLAB) Practical laboratories	4	Catalan/Spanish	first semester	morning-mixed
(PLAB) Practical laboratories	5	Catalan/Spanish	first semester	morning-mixed
(PLAB) Practical laboratories	6	Catalan/Spanish	first semester	morning-mixed
(PLAB) Practical laboratories	7	Catalan/Spanish	first semester	morning-mixed
(SEM) Seminars	1	Catalan	first semester	morning-mixed
(SEM) Seminars	2	Catalan	first semester	morning-mixed
(SEM) Seminars	3	Catalan	first semester	morning-mixed
(SEM) Seminars	4	Catalan	first semester	morning-mixed
(SEM) Seminars	5	Catalan	first semester	morning-mixed
(SEM) Seminars	6	Catalan	first semester	morning-mixed
(SEM) Seminars	7	Catalan	first semester	morning-mixed
(TE) Theory	1	Catalan/Spanish	first semester	morning-mixed
(TE) Theory	2	Catalan/Spanish	first semester	morning-mixed

PRO