

DEGREE CURRICULUM AGRONOMY

Coordination: PLAZA BONILLA, DANIEL

Academic year 2023-24

Subject's general information

Subject name	AGRONOMY							
Code	100311							
Semester	2nd Q(SEMESTER) CONTINUED EVALUATION							
Туроlоду	Degree			Course	Character			Modality
	Double bachelor's degree: Bachelor's Degree in Veterinary Medicine and Bachelor's Degree in Science and Production			1	COMPULSORY			Attendance- based
Course number of credits (ECTS)	6							
Type of activity, credits, and groups	Activity type	PRA	LAB	PRAU		RAULA		TEORIA
	Number of credits	0.6	0.6	0.	8	1		3
	Number of groups	3	4	2	2	1		1
Coordination	PLAZA BONILLA, DANIEL							
Department	AGRICULTURAL AND FOREST SCIENCES AND ENGINEERING							
Teaching load distribution between lectures and independent student work	Hores presencials: 60 Hores no presencials: 90							
Important information on data processing	Consult this link for more information.							
Language	Catalan: Daniel Plaza and Joaquim Balcells. Spanish: Nieves Escalera. English: Daniel Plaza							

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
BALCELLS TERES, JOAQUIM	joaquim.balcells@udl.cat	1,2	
ESCALERA MORENO, MARIA DE LAS NIEVES	mariadelasnieves.escalera@udl.cat	3	
PLAZA BONILLA, DANIEL daniel.plaza@udl.cat		5,6	Established by previous e-mail contact.

Learning objectives

The student must:

1. Know the cereals, legumes, oilseeds, meadows and forages used in animal feed.

2. Learn the most important nutritional characteristics of each group of field crops.

The student must be able to:

3. Identify the cultivation techniques of cereals, legumes, oilseeds, meadows and forages.

4. Be able to identify species and raw materials used for animal feed.

Competences

Basic skills

CB2: Apply their knowledge to their work or vocation in a professional way and possess the skills that are usually demonstrated through the elaboration and defense of arguments and problem solving within their area of study.

CB3: Ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant issues of a social, scientific or ethical nature.

CB5: Know how to develop those learning skills necessary to undertake further studies with a high degree of autonomy.

General skills

CG2 Use the knowledge of basic sciences (biology, physics, biochemistry, physiology, mathematics, statistics, economics ...) to understand animal processes and their involvement in the agro-livestock system

Specific competencies Science and Animal Production (CPA)

CE7 Identify the different factors of production and raw materials for animal feed and their involvement in intensive and extensive animal production.

Specific competencies Veterinary medicine

CE25 Know and identify the raw materials for animal feed: Characteristics, production and conservation

Transversal competences

CT6. Analyse specific situations, define problems, make decisions and implement action plans in the search for solutions.

CT7. Apply acquired knowledge to real situations, properly managing available resources.

Subject contents

THEORETICAL SYLLABUS

- 1. Introduction to agriculture
- 2. Most important crops and their relationship with livestock
- 3. Importance of crops use for animal feed
- 4. The CAP and the production of extensive crops. The international market for raw materials
- 5. Basic concepts about the quality of raw materials
- 6. Field crop production: Cultivation techniques
- 7. Cereal production
- 8. Quality of cereals
- 9. Production of legumes and oilseeds
- 10. Quality of legumes and oilseeds
- 11. Production of fodder and conservation methods
- 12. Quality of fodder
- 13. Assessment of forage quality
- 14. Meadows and pastures
- 15. Other raw materials intended for animal feed

PRACTICAL SYLLABUS

- Practice 1. Recognition of extensive crop species (seeds and plants)
- Practice 2. Fertilizers and fertilization
- Practice 3. Identification of cereals and by-products
- Practice 4. Identification of legumes, oilseeds and by-products.
- Practice 5. Identification and organoleptic assessment of hay and silage.
- Practice 6. Identification of raw materials ground by microscopy

WORKSHOPS - SOLUTION OF EXERCISES

Workshop 1. Markets

Workshop 2. Crop technology

- Workshop 3. Crop rotations
- Workshop 4. Crop rotations and cropping systems
- Visit 1. Technical visit to farms and field crop trials

Methodology

The course is structured in four types of activities: theoretical classes, laboratory practices, workshops (solving exercises) and a visit. Theoretical classes will try to be participatory. The practices will be carried out in the laboratory. The exercises will be done individually. The visit will be mandatory and a handwritten report will be required.

The practices, the visit, workshops and the theory will be programmed as face-to-face activities.

Development plan

Weeks	Actividad	Hours		
1	Lesson 1 Lesson 2 Lesson 3	4		
2	Lesson 4 Exercises 1	4		
3	Lesson 5 Lesson 6 Practise 1	5		
4	Lesson 7 Lesson 8 Exercises 2	5		
5	Lesson 8 Practise 2	4		
6	Lesson 8 Practise 3	4		
7	Exam			
8	Lesson 9 Lesson 10 Exercises 4	4		
9	Lesson 10 Practise 4	4		
10	Lesson 11	4		
11	Lesson 12 Practise 5	4		
12	Visita	4		
13	Lesson 13	4		
14	Lesson 14 Lesson 15 Practise 5	6		
15	Exercises 3 Exercises 5	4		
16	Exam			

Evaluation

The evaluation will be continuous.

1. There will be two partial exams with short questions that will include the theoretical syllabus. Each exam is passed with a five. The qualification of the practices exam will be weighted average with the theory exam if equal or above 4.

2. Attendance at practices is mandatory (more than 85% of the internship hours). There will be a written exam along with the partial theory exam

3. Attendance at exercise resolution workshops is mandatory (over 80%). The exercises will be delivered as virtual campus activities. Attendance to the workshop is essential to evaluate the exercises.

3. Attendance at the visit is also mandatory and will be assessed by submitting a report.

In the final grade:

- 1. Theoretical classes 70%, shared in 2 blocks of 35% (corresponding to Daniel Plaza and Joaquim Balcells).
- 2. Practical classes 15%
- 3. Workshops 15%

Bibliography

Boyeldieu, J. 1991. Produire des grains oléagineux et protéagineux. Agriculture d'Aujourd'hui. Tec&Doc. Lavoisier. Paris.

López Bellido, L. 1991. Cereales. Mundi-Prensa. Madrid.

Angulo, E. 2008. Alimentos para la producción animal. Ed. ETSEA

McDonald, P., R. Edwards, J.F.D. Greenhalgh. 1993. Nutrición animal. Ed. Acribia. Zaragoza

Remon. 1984. Prados y forrajes. Aedos