Universitat Autònoma de Barcelona

2021/2022

Production and Health of Cattle

Code: 103966
ECTS Credits: 6

Degree	Type	Year	Semester
2502445 Veterinary Medicine	OT	5	0

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers

Alberto Oscar Allepuz Palau
Lorena Castillejos Velázquez
Joaquín Casellas Vidal

Prerequisites

There are no official prerequisites for taking this course, but it is advised that the student has passed the subjects

"Animal Health I and II, and" Medicine and Income Animal Surgery, " as well as having revised the contents of "E

"Agronomy and agrarian economy" (first) and "Animal nutrition."

Objectives and Contextualisation

It is a fifth year course, optional, in the area of animal production, with an integrating and professionalizing approach. The main objective is to put the student in front of the usual problems in cattle farms, integrating the aspects of production (animal, handling, facilities, production of forages), health (control and prevention) and economics (costs and profitability).

The specific objectives are:

• The application and integration of the cattle production principles learned throughout the degree, with an emphasis on the interactions between food, reproduction, health and facilities and comfort and animal welfare

• The application and integration of the principles of epidemiology, control and prevention of pathologies.

• The application of the principles of economics of the production process

• The development of the analytical capacity to diagnose and prioritize the problems present in an operation

Competences

- Analyse, synthesise and resolve problems and make decisions.
- Assess and undertake epidemiological studies and therapeutic and preventive programs in accordance with the standards of animal welfare, animal health and public health.
- Demonstrate knowledge of English to communicate both orally and in writing in academic and professional contexts.
- Draft and present satisfactory professional reports, always maintaining the required confidentiality.
- Perform risk analyses, including those of environmental and biosafety, and evaluate and manage them.
- Value and interpret the production and health parameters of one animal group, considering the economic and welfare aspects.

Learning Outcomes

1. Analyse, interpret and evaluate the production and healthcare parameters of a farm or fishery and produce a plan of corrective actions considering the factors of animal welfare, environmental protection and product quality.
2. Analyse, synthesise and resolve problems and make decisions.
3. Apply a health plan to concrete situations in accordance with the productive and economic aspects of a livestock farm or fishery and the ethical, social and normative limitations.
4. Demonstrate knowledge of English to communicate both orally and in writing in academic and professional contexts.
5. Draft and present satisfactory professional reports, always maintaining the required confidentiality.
6. Evaluate and apply biosafety protocols in concrete cases referring to farms.

Content

BLOCK 1: DIAGNOSTIC STRATEGIES IN DAIRY OPERATIONS

TOPICS

- Evaluation of the reproductive situation
  - Reproduction as a farm problem
  - Diagnosis of reproductive problems at the farm level
  - Evaluation of solutions and implementation strategies
- Evaluation of the productive situation:
  - Production level evaluation. Analysis of lactation curves
  - Evaluation of the levels of fat and protein
  - Assessment of the body condition and its interpretation
  - Diagnosis of productive problems at the farm level
  - Solution evaluation and implementation strategies
- Evaluation of the hygienic quality of milk
  - Calculation and interpretation of the index related to the health of th
  - Diagnosis of health quality problems of milk at farm level
  - Evaluation of solutions and implementation strategies
- Evaluation of the replacement program
  - Evaluation of the replacement program: critical points
  - Diagnosis of problems in the replacement program
  - Evaluation of solutions and implementation strategies

- Evaluation of pathologies
  - Frequent populations and normal incidences
  - Production pathologies and their prevention
  - Control of infectious and parasitic diseases
- Applied genetics to dairy farms

SEMINARS

- Diagnostic seminars on milk farms
- Application of genetics to dairy farms

SELF-LEARINING

Preparation of an evaluation report of a dairy farm

SECTION 2: MANAGEMENT OF BEEF FARMS

TOPICS

- Index for problem evaluation and diagnosis in beef cattle farms
- Index for problem evaluation and diagnosis in beef fattening farms
- Biosafety and control of infectious and parasitic diseases in beef

SELF-LEARINING

Preparation of a report for the dairy farm visit and analysis

BLOCK 3:

FUNDAMENTAL ASPECTS OF BOVINE HEALTH

- Evaluation of the most relevant aspects of the health of a bovine holding

Methodology

The center of the learning process is the work of the student. The student learns working, being the mission of the teaching staff to help him / her in this task (1) providing information or showing the sources where it can be obtained and (2) directing his / her steps so that the learning process can be done effectively. In line with these ideas, and in accordance with the objectives of the subject, the development of the course is based on the following activities:

1. Master classes:

The student acquires the own knowledge of the subject attending the master classes and complementing them with the personal study of the topics explained. The master classes are conceived as a fundamentally unidirectional method of transferring the knowledge of the teacher to the student, but it stimulates by means of the contribution of bibliographical references and Internet addresses the extension of the information

2. Seminars:

The seminars are designed to discuss the problems that the student finds in the development of the cases, the calculation of the indexes and the interpretation of the results. They will be very interactive and will review the tasks that the student will have developed throughout each week.

3. Self-learning:

A good part of the course will be carried out by conducting visits and analysis of livestock farms, as well as the preparation of reports and evaluation of the possible alternatives with a program of technical and economic simulation. This job is self-learning, although there will be a continuous dialogue with the teacher. The reports will be presented in class and will be defended before the farmers

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.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Farm visits	6	0.24	1, 2, 3, 6
In class teaching	30	1.2	1, 3, 6
Seminars	18	0.72	1, 2, 3, 4, 6
Type: Supervised			
Farm simulator	10	0.4	1, 2, 3, 6
Type: Autonomous			
Genetic model	5	0.2	1, 2, 3, 5, 6
Index calculation	45	1.8	1, 2, 3, 5, 6
Information search	16	0.64	1, 3, 6
Report writing	20	0.8	1, 3, 6

Assessment

The evaluation will be done by delivering reports for each of the teaching blocks. It must be approved with more t

The evaluation report of the farm must be presented in English (PowerPoint and oral presentation)

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Beef cattle seminar	10	0	0	1, 2, 3, 5, 6

Report of the evaluation of health control strategies	8	0	0	1, 3, 6
Report on the dairy farm simulation program	38	0	0	1, 2, 5
Report on the evlauation of a dairy farm (Bloc 2)	37	0	0	1, 2, 3, 4, 5, 6
Report on the evluation of genetic selection strategies	8	0	0	1, 2, 3, 5, 6

Bibliography

Dairy Herd health and management. J. Noordhuizen. 2012

Herd health and production management in dairy practice. A. Brandt, JPTM Noordhuizen, YH Shucken. 2001

Dairy herd health. M. Green. 2012

Dairy production medicine. C. Risco and P Melendez. 2011

Software

Spartan Dairy formulation (University of Michigan)

Dairy Farm Simulator (www.virtualdairyfarm.org; Servicio de Nutricion y Bienestar Animal, Universitat Autonoma de Barcelona

TM (http://genoweb.toulouse.inra.fr/~alegarra/tm_folder) for genetic evaluation

GNU Fortran (https://gcc.gnu.org/fortran/) for the compilation of TM