GHENT UNIVERSITY

Course Specifications

Valid in the academic year 2022-2023

Animal Production Systems (I002517)

Course size *(nominal values; actual values may depend on programme)*

Credits 5.0	**Study time 150 h**	**Contact hrs**	50.0h

Course offerings and teaching methods in academic year 2022-2023

A (semester 2)	Dutch	Gent	excursion	15.0h
			group work	5.0h
			lecture	30.0h
			self-reliant study activities	0.0h

Lecturers in academic year 2022-2023

De Smet, Stefaan	LA22	lecturer-in-charge
Bossier, Peter	LA22	co-lecturer

Offered in the following programmes in 2022-2023	**crdts**	**offering**
Bachelor of Science in Bioscience Engineering(main subject Agricultural Sciences)	5	A

Teaching languages

Dutch

Keywords

Animal science, production systems, livestock husbandry, cattle, pigs, poultry, milk production, meat production, egg production, animal genetics, animal-environment interactions, animal welfare, environmental impact, aquaculture, fish, larval feed, sustainability

Position of the course

The aim of this course is to gain insight into the most important aspects of terrestrial and aquatic animal production systems. The emphasis is on the zootechnical aspects of the sustainable management of these systems, in interaction with the environment, mainly in a Flemish context.

Contents

Theory: contents of the study material dealt with in the lectures:

Land-based production systems (3/4):

1. Introduction: domestication and taxonomy of farm animals, animal farming in Flanders
2. Cattle husbandry: breeds, genetics, reproductive cycle, milk production, meat production, management
3. Pig husbandry: breeds, genetics, reproductive cycle, meat production, management
4. Poultry production: genetics, reproductive cycle, egg production, meat production, management
5. Farm animal breeding: monogenic traits, evaluation of quantitative traits, breeding value estimation, selection, crossbreeding
6. Effect of the environment on farm animals: animal welfare; environmental factors and housing; human-animal interaction
7. Effect of animal production on the environment: solid, liquid and gaseous emissions; aspects of animal and human health; sustainability
8. Quality of animal products: evaluation of milk, meat and eggs

Aquatic production systems (1/4):

1. Opportunities and limitations of aquaculture; aquaculture vs. terrestric animal production; types of aquaculture; overview of reproduction stages
2. Overview of the most important groups and species: use of live food in the

larval stage; fish; crustaceae; mollusks
3. Overview of the most important production systems
4. Challenges and current evoluation in the growth of sustainable aquaculture
5. Overview of aquaculture in Flanders

The *practical exercises* consist of guided group visits to livestock and aquatic farms and research centres. Besides three general visits with the whole group of students, the students also have to visit in a smaller group (3-4 students) a commercial farm. The students have to collect information regarding various aspects of the farm and the management (e.g. composition of the herd, feeding and management strategies...). This information has to be summarized in a report and in a presentation. The students present their farm visit to the whole group of students and this is further discussed, also in relation to the information given during the lectures. In addition, there is a reflection on some ethical issues in livestock production.

Initial competences

Profound knowledge of biology

Final competences

1 Have basic knowledge of animal products and the most important elements of the production systems (terrestric and aquatic).
2 Have insight in the functioning of animal production systems and the interactions with the environment.
3 Describe and compare different animal production systems.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Group work, Excursion, Lecture, Self-reliant study activities

Extra information on the teaching methods

The theory is dealt with in the lectures. The exercises consist of organised visits to production systems with the complete group of students, and of a visit is a smaller group (3-4 students) to a production system of own choice (commercial farms). The information gathered on the farms has to be summarised in a report and a presentation. At the end of the course, all groups present their visit report to the other students, and this is discussed.

Learning materials and price

All learning material and presentations that are used during the lectures are available via Ufora.

References

As general handbook:
R.E. Taylor. Scientific Farm Animal Production. 1995. Prentice Hall, Englewood Cliffs, N.J., USA
In the study material, reference is made to several publications and relevant websites

Course content-related study coaching

In the lectures information is actively exchanged with the students and the study material is discussed. The exercises consist of guided farm visits (see higher). Questions on the contents and the exercises can always be made via Ufora or via e-mail to the lecturer or the assistants. There is intermittent feedback on the report of the farm visit.

Assessment moments

end-of-term and continuous assessment

Examination methods in case of periodic assessment during the first examination period

Written examination, Oral examination

Examination methods in case of periodic assessment during the second examination period

Written examination, Oral examination

Examination methods in case of permanent assessment

Report, Participation

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible in modified form

Extra information on the examination methods

The period-aligned evaluation consists of 4 written questions (3 on terrestrial production systems and 1 on aquatic systems), that are subsequently discussed with the examinator.
The non-period-aligned evaluation consists of the evaluation of the contents of the report, the quality of the presentation and the answers to the questions

Calculation of the examination mark

The period-aligned evaluation (written and oral examination) accounts for 65%, whereas the non-period-aligned evaluation (participation to the farm visits, evaluation of the report, presentation and discusion of the farm visits) accounts for 35%. Participation at the farm visits is obligatory.
Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examinator.