

Animal Production Systems (I700285)

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

Credits 5.0 **Study time 150 h**

Course offerings in academic year 2025-2026

A (semester 1) Dutch Gent

Lecturers in academic year 2025-2026

Ingels, Katrijn	LA22	staff member
Degroote, Jeroen	LA22	lecturer-in-charge
Declercq, Annelies	LA22	co-lecturer
De Smet, Stefaan	LA22	co-lecturer
Hostens, Miel	LA22	co-lecturer

Offered in the following programmes in 2025-2026

	crdts	offering
Bachelor of Science in Bioscience Engineering Technology	5	A
Linking Course Master of Science in Bioscience Engineering Technology: Agriculture and Horticulture (main subject Plant and Animal Production)	5	A
Preparatory Course Master of Science in Bioscience Engineering Technology: Agriculture and Horticulture (main subject Plant and Animal Production)	5	A

Teaching languages

Dutch

Keywords

Animal science, production systems, livestock husbandry, cattle, pigs, milk production, meat production, animal genetics, animal-environment interactions, animal welfare, environmental impact, 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.

Contents

Theory: contents of the notes covered in the lectures

1. Introduction: Domestication and taxonomy of farm animals; animal production systems in Flanders and globally.
2. Cattle Husbandry: Breeds; genetics; reproductive cycle; rearing of juvenile cattle; milk production; meat production; management; farm protocols; health; welfare; and biosecurity, exterior assessment.
3. Pig Husbandry: Breeds; genetics; reproductive cycle; piglet rearing; growth curve; meat production; management; farm protocols; health; welfare; and biosecurity.
4. Farm Animal Breeding: Monogenic characteristics; evaluation of quantitative traits; breeding value estimation; selection; and crossbreeding.
5. Effect of the Environment on Farm Animals: Animal welfare; environmental factors and housing; human-animal interaction.
6. Effect of Animal Production on the Environment: Solid, liquid, and gaseous emissions; aspects of animal and human health; and sustainability.
7. Quality of Animal Products: Quality assessment of milk and meat.

The practical exercises

1. Guided visits to companies and organizations in the livestock sector (suppliers,

buyers, support services).

2. Guest lectures by experts from the sector with an emphasis on practice-relevant information.

3. Review of specific technical literature to gain a better understanding of the various stakeholders in animal production, current developments, and future trends.

Initial competences

This course unit builds on certain final competencies of course units Physiology of the Animal and Reproductive Physiology of Animals.

Final competences

- 1 Have basic knowledge of animal products and the most important elements of the production systems (terrestrial).
- 2 Have insight in the functioning of animal production systems and the interactions with the environment.
- 3 Describe and compare different animal production systems.
- 4 Able to act soundly as a manager/consultant in the field of swine and cattle production.
- 5 Have a good knowledge of farm systems and farm management in swine and cattle farming.

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, Independent work

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. The information gathered on the farms has to be summarised in a report.

Study material

Type: Handouts

Name: Notes

Indicative price: Free or paid by faculty

Optional: no

Language : Dutch

Available on Ufora : Yes

Additional information: The notes include slides and accompanying text.

Type: Excursion

Name: Farm visits

Indicative price: Free or paid by faculty

Optional: no

Additional information: Travel to the experimental farms is largely paid for by the programme, but students should also provide for their own travel (visit to ILVO, Melle and one farm visit of their choice).

References

In the study material, reference is made to several handbooks, documents, 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. Personal support is possible after making an appointment.

Assessment moments

end-of-term and continuous assessment

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

Oral assessment, Written assessment

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

Oral assessment, Written assessment

Examination methods in case of permanent assessment

Written assessment with multiple-choice questions, Participation, Written assessment with open-ended questions, Peer and/or self assessment, Written assessment open-book, Assignment

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-based evaluation consists of examination with written questions (multiple-choice and open-ended), only some of which are discussed orally with the teacher afterwards.

The non-period evaluation includes participation in the company visits, and evaluation of the content of the reports, as well as correctly answering a written test (multiple choice and open questions, possibly with open book)

Calculation of the examination mark

Period-aligned evaluation: 70%

Non-period-aligned evaluation: 30%. 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 examiner. The assessment and determination of the final grade are based on the mathematical average according to the assigned coefficients. If one does not participate in the evaluation of one or more components, or if one scores less than 8/20 (not rounded) on one or more components, passing the course unit is no longer possible. If the final score calculation still amounts to 10 (or more) out of 20, it will be adjusted to 9/20.