GHENT UNIVERSITY

Course Specifications

Valid in the academic year 2024-2025

Sustainable Animal Husbandry (I002744)

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

Credits 5.0 **Study time 150 h**

Course offerings in academic year 2024-2025

A (semester 2)	English	Gent

Lecturers in academic year 2024-2025

Offered in the following programmes in 2024-2025	crdts	offering

Teaching languages

English

Keywords

Food producing animals, production systems, farm management, environment, animal welfare, life cycle analysis, circularity

Position of the course

To acquire insight in technical management factors which determine sustainable animal husbandry of major farm animal species (cattle, pigs and poultry) within a legislation context (e. g. emission rights, production quota). Different technical parameters are integrated to evaluate the sustainability concept. Integration is based on principles of life cycle analysis which are used to assess sustainabiltiy of animal husbandry using a systems approach.

Contents

Introduction
Overall introduction: situating animal husbandry – introduction to sustainability concept.
Assessment of sustainability on farm vs life cycle analysis
A PRODUCTION PARAMETERS
- Production & reproduction: physiological trade offs & limits to genetic selection
- Assessing trade off between production and reproduction from on farm technical (re) productivity parameters (case study)
- Live animal and carcass assessment

B ENVIRONMENT
- Overall introduction environment + assessing efficiency
- Nutrient emissions: nitrogen (nitrate & ammonia) and phosphorous
- Greenhouse gas emissions from livestock systems
- Livestock in a circular bio-economy

C. WELFARE / SAFETY / QUALITY
- Welfare: ethics, housing & transport of livestock
- Product safety - biosafety & on farm biocheck tool
- Animal product quality: improving sensorial & nutritional quality to add value

Initial competences

Thorough knowledge of animal husbandry and animal production systems.

Final competences

1 Insight in practical aspects of herd management.
2 Appoint main criteria within the concept of sustainable animal husbandry, such as animal welfare, product quality and the effect of animal production on the environment.
3 Applying the principles of life cycle analysis to compare animal husbandry systems both at a global, regional and farm level.

4 Integrate the triad concept of sustainability to compare animal husbandry systems.
5 Critically integrate course concepts into new study cases.

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

Seminar, Excursion, Lecture, Independent work

Study material

None

References

cfr. extensive reference list in the course material

Course content-related study coaching

During the contact hours, the different topics are discussed under supervision of the lecturer. Exercises involve calculations, case studies under supervision of the lecturer, field work, excursions and seminars by 'field experts'.

Assessment moments

continuous assessment

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

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

Examination methods in case of permanent assessment

Oral assessment, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible

Extra information on the examination methods

- During the semester, various case studies are proposed to the students. Each student individually prepares 4 of these cases (at least 1 related to each of the parts I to III of the course) in a written report (+/- 5 pages/case). Some cases concern quantitative assessments.
- Case report deadlines are throughout the semester (in agreement with the students).
- Cases are discussed orally with the responsible supervisor of the corresponding part of the course. This can be organised in conjunction with the submission deadlines throughout the semester or during the last week of the semester (in agreement with the students).

Calculation of the examination mark

5/20 per case - 50% on the written report, 50% on the oral discussion
Students who eschew non-period aligned evaluations for this course unit may be failed by the examiner.