

Aquaculture Nutrition (I002794)

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

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

Course offerings in academic year 2022-2023

A (semester 2) English Gent

Lecturers in academic year 2022-2023

Fremaut, Dirk LA22 staff member
Fievez, Veerle LA22 lecturer-in-charge

Offered in the following programmes in 2022-2023

	crdts	offering
Master of Science in Aquaculture	5	A
Exchange Programme in Bioscience Engineering: Agricultural Sciences (master's level)	5	A

Teaching languages

English

Keywords

Aquaculture, nutrition, food, feed.

Position of the course

The course covers a number of general and specific issues related to (non-live) feed requirements, feed characteristics, feed production, feeding practices in an aquaculture context.

Contents

1. Aquaculture feed ingredients, feed analysis, chemical and nutritive characteristics of feed ingredients
2. Aquaculture feed production technology
3. Nutritional requirements of aquaculture organisms
4. Efficiency of use of feed by aquaculture organisms: feed conversion ratio; fish-in/fish-out-ratio
5. Sustainability in feed production; alternative feed ingredients: potentials and challenges
6. Aquaculture feed formulation based on linear programming
7. Excursion

Initial competences

General biology, chemistry, biochemistry and basic knowledge on aquaculture.

Final competences

- 1 The student is able to enumerate the main ingredients being used for aquaculture feeds, their advantages and disadvantages, and is able to critically evaluate tendencies within aquaculture nutrition with a focus on enhanced sustainability of rearing practices
- 2 The student is able to explain why an ingredient is suitable for the production of feeds in the aquatic environment.
- 3 The student understands which feed ingredients are necessary, and in which proportions, to compose a balanced artificial aquaculture diet depending on the species and the rearing context
- 4 The student is able to describe how the organism takes advantage of the feed ingredients and how feed formulation is related to intake and digestion by the organism.
- 5 The student is able to describe the various methods for feed analysis and can argue why they may be suitable in a scientific and/or an industrial production environment.
- 6 The student has insight into compound feed formulation based on linear programming

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

Demonstration, Guided self-study, Excursion, Lecture, Seminar: coached exercises

Extra information on the teaching methods

Theory lectures: lectures based on powerpoint presentations and videos.

Exercises: virtual lab exercise on feed analysis; guided exercises on linear programming in feed formulation.

Excursion: visit to feed production plant and to aquaculture facilities

Learning materials and price

Printout of the powerpoint presentation will be available during all classes.

Estimated cost of the printouts: 20 euro (included in fee that is paid in the beginning of the academical year).

References**Course content-related study coaching**

Lecturers are available during and after the classes.

Further study guidance upon request by email or on appointment.

Assessment moments

end-of-term and continuous assessment

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

Written examination

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

Written 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

Extra information on the examination methods

Period aligned evaluation: theory: written closed book exam.

Non-period aligned evaluation: exercises and excursion: participation and report.

Calculation of the examination mark

Out of 20:

17 points attributed to written exam; 3 points attributed to the excursion report

Students that do not attend the excursion without a valid reason, should retake the course the next academic year.

Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.