GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2025-2026

Fish Welfare and Health (I002858)

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

Credits 7.5 **Study time 200 h**

Course offerings in academic year 2025-2026

A (semester 2) English Gent

Lecturers in academic year 2025-2026

Aas, Grete Kristine Følsvik Hansen TRONDH01 lecturer-in-charge

Offered in the following programmes in 2025-2026	crdts	offering
International Master of Science in Health Management in Aquaculture	7.5	A

Teaching languages

English

Keywords

Salmon farming, welfare, diseases, disease spreading, stress management, health management, infectious agents and mechanisms for spread, biosecurity, aquaculture

Position of the course

An increasing food production in a global context takes place in aquaculture. Fish farming has developed into one of Norway's most important export industries, and it is a political priority that production should increase in the future. A prerequisite for an increase is that production is sustainable in terms on effects on the water environment..

Farming must also be sustainable in terms of fish welfare, fish health which affects mortality/waste in the farmed fish. Specific, infectious diseases are of particular importance in large, dense populations. It is necessary to know the reservoir of infection, the mechanisms for disease outbreaks and principles for the spread of infection in order to prioritize methods for disease control and biosecurity in fish farming.

Fish welfare is important in the farming industry for production results, reputation and sustainability. In addition to documentation of good health/absence of disease, there are various methods and measurement parameters for measuring or evaluating fish welfare. In a farming situation, fish populations are exposed to many stresses that trigger stress; increased fish density, changed water quality, feeding situation/nutrient uptake, as well as various forms of handling, treatment and other manipulation. Welfare can be measured both via operative and laboratory-based welfare indicators.

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Initial competences

The course requires good knowledge in general biology or physiology. The minimum level of knowledge is completed courses in marine biology and marine ecology.

Final competences

Knowledge: The student must have an overview of the cause of diseases in farmed fish related to pathogens, malnutrition and an unfavorable environment. Furthermore, an understanding of how infectious diseases develop in populations and spread in the environment must be developed, as well as understanding general principles and measures to prevent the introduction and further spread of infectious agents. Furthermore, the student must have knowledge of the importance of good fish welfare, and methods for measuring/documenting fish welfare.
Skills: The student must be able to describe general principles for the spread of infection and infection control for diseases in farmed fish, as well as the importance of important infectious diseases with an emphasis on conditions of importance for preventing the introduction of infection. Furthermore, the candidate must describe other diseases that are not linked to viruses, bacteria and parasites and the causes of these, as well as explain various methods for documenting fish welfare.
General knowledge:
•Have knowledge of fish health and fish welfare for sustainable fish farming
•Know the meaning of various diseases, monitoring and disease control
•Understand different principles and methods for monitoring fish welfare
•Understand the interaction between stress, good health and welfare in farmed fish.

Conditions for credit contract

This course unit cannot be taken via a credit contract

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Group work, Lecture, Practical

Extra information on the teaching methods

- Lecture: 30 hours.
- One day with a supervising veterinarian.
- Compulsory laboratory courses.
- Compulsory placement on aquaculture facilities.
- Compulsory assignment with presentation.

Study material

None

References

Course content-related study coaching

Teaching support by PhD students in the laboratory. Guiding upon request, student advice on agreement

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, Presentation, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible

Extra information on the examination methods

Compulsory activity must be completed in order to take the exam.

- Approved laboratory course
- Approved field work
- Approved assignment and presentation of report

If you fail the oral exam, you will be able to take the resit exam in the next term regardless of teaching in the subject.
Compulsory activity from previous semesters may be approved by the department.

Calculation of the examination mark

The normal grades are A-F and 7.5 ECTS achieved if passed (E and better, 40%)
Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.