GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2024-2025

Fish Health Laboratory Course (I002876)

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

Credits 2.0 **Study time 50 h**

Course offerings in academic year 2024-2025

A (semester 2) English Gent

Lecturers in academic year 2024-2025

Roher Armentia, Nerea	BARCELO7	lecturer-in-charge
Constenla Matalobos, Maria	BARCELO7	co-lecturer
Padrós Bover, Francesc	BARCELO7	co-lecturer
Sala Pallares, Roser	BARCELO7	co-lecturer
Teles Pereira, Mariana	BARCELO7	co-lecturer

Offered in the following programmes in 2024-2025	**crdts**	**offering**
International Master of Science in Health Management in Aquaculture	2	A

Teaching languages

English

Keywords

Health management, immunity, mucosal immunity, leucocytes, fish pathology, necropsy, bacterial diseases, viral disease, parasitic diseases, diagnostics, immunoprophylaxis, vaccines, nutritional management for health, nutraceuticals & health, therapeutics

Position of the course

This course is a practical course in which the student will get training in fish necropsy, diagnostics for pathogens, parasites and alterations in fish, blood and mucus sampling and blood leucocyte separation.

Contents

- *Fish necropsy*
- *Pathologic and parasite diagnostic methods*
- *Observation and recognition of main histopathological alterations in fish*
- *Blood and mucus sampling*
- *Immune cell separation*
- *Vaccines*
- *Water quality: microbiology*
- *Food management for fish health*

The activities will be accompanied by specialized visits (research center and a vaccine company) and/or selected conferences related to the topics dealt in the course.

Initial competences

General biology, general physiology, zoology, animal health, histopathology

Final competences

1 *Sampling procedures for blood and mucus and cell separation*
2 *Observation and sampling procedures for detecting the main symptoms of diseases and being able to make a good diagnosis*
3 *Detecting the main histopathological alterations*
4 *Knowing the process of producing and administering fish vaccines*

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, Seminar, Excursion, Lecture, Practical, Independent work

Study material

None

References

- *Brown, L. 1993. Aquaculture for Veterinarians. Pergamon Press, Oxford. U.K.*
- *Ferguson, H.W. 1989. Systemic pathology of fish: a text and atlas of comparative tissue responses in diseases of teleosts. Iowa State Univ.Press. Ames. Iowa. USA.*
- *Flajnik MF. A cold-blooded view of adaptive immunity. Nat Rev Immunol. 2018;18 (7):438-453. doi:10.1038/s41577-018-0003-9*
- *Nakagawa, H., Sato, M., Gatlin III, D.M. 2007. Dietary supplements for the health and quality of cultured fish CABI books.*
- *Noga, E.J. 1996. Fish Disease. Diagnosis and treatment. Iowa State University Press, Ames. Iowa. USA.*
- *Roberts, R.J. (2012). Fish pathology. Wiley-Blackwell*
- *Schreck, C., Moyle, P.B. 1990. Methods for fish Biology. Amer. Fish Soc. Bethesda.*
- *Smith Nicole C., Rise Matthew L., Christian Sherri L. (2019). A Comparison of the Innate and Adaptive Immune Systems in Cartilaginous Fish, Ray-Finned Fish, and Lobe-Finned Fish. Frontiers in Immunology. DOI=10.3389/fimmu.2019.02292*
- *Treves-Brown, K.M. 2000. Applied Fish Pharmacology. Kluwer Academic Publishers. Dordrecht. The Netherlands.*
- *Woo, P.T.K., Bruno, D.W., Lim, L.H.S., 2002. Diseases and disorders of finfish in cage culture. Cabi Plublishing, U.K.*

Course content-related study coaching

Teacher available for student counselling

Assessment moments

end-of-term and continuous assessment

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

Participation, Written assessment, Assignment

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

Oral assessment, Written assessment

Examination methods in case of permanent assessment

Professional practice, Oral assessment, Skills test, Participation, Written assessment, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible in modified form

Calculation of the examination mark

Report of lab activities 40%; Written exam 40%; Visits and conferences questions 15%; Whole duties attendance and accomplishment 5%.
Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.