

## 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
<a href="#">International Master of Science in Health Management in Aquaculture</a>	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 Publishing, 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.*