GHENT UNIVERSITY

Course Specifications

From the academic year 2020-2021 up to and including the academic year

Fish and Shellfish Immunology (I002797)

Due to Covid 19, the education and assessment methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

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

Credits 4.0 **Study time 120 h** **Contact hrs** 40.0h

Course offerings in academic year 2021-2022

A (semester 1) English Gent

Lecturers in academic year 2021-2022

Vanrompay, Daisy LA22 lecturer-in-charge

Offered in the following programmes in 2021-2022	crdts	offering
International Master of Science in Health Management in Aquaculture	4	A
International Master of Science in Marine Biological Resources	4	A
Master of Science in Aquaculture	4	A
Exchange Programme in Bioscience Engineering: Agricultural Sciences (master's level)	4	A

Teaching languages

English

Keywords

Antigens, immune organs of fish, inflammation, key cells of innate immunity in fish, cell based innate immune sensing in fish, cellular effectors in fish, humoral-based immune sensing in fish, cytokines, chemokines, MHC of fish, antigen presentation in fish, T and B cell response in fish, immunoglobulins of fish, key cell types of innate immunity in shellfish, pathogen recognition receptors of shellfish, the proPO system in shellfish, coagulation in shellfish, anti-viral mechanisms in shellfish

Position of the course

This course aims at providing a detailed overview on immunology of fish and shellfish.

Contents

1 History of immunology
2 Antigens
3 Immune organs of fish
4 Inflammation
5 Innate immunity
6 Key cells
7 Cell based innate immune sensing fish
8 Cellular effectors in fish
9 Humoral-based immune sensing in fish
10 Cytokines and chemokines
11 MHC in fish
12 Ag presentation
13 T cell response in fish
14 Immunoglobulines of fish
15 B cell response in fish
16 Hemocytes in shellfish and tissues of their immune system
17 PRR of shellfish
18 ProPO in shellfish
19 Coagulation in shellfish
20 Anti-viral mechanisms in shellfish

Initial competences

General biology, microbiology, basic knowledge on aquaculture.

Final competences

1
2
3
4
5

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

Lecture

Extra information on the teaching methods

Theory lectures: lectures based on powerpoint presentations.

Learning materials and price

Syllabus (English). Estimated price 15 euro.

References

1) Fish Defenses, Vol I: Immunology. Edited by G. Zaccone et al., (2017). CRC Press, Taylor & Francis Group
2) Fish vaccination. Edited by R. Gudding, A. Lillehaug and O. Evensen (2014). John Wiley & Sons, Ltd. , 9600 Garsington Road, Oxford, OX4 2DQ, UK. ISBN 978-0-470-67455-0.
3) Immunobiology. Kenneth Murphy and Casey Weaver. 9th Edition, (2016). Garland Science Publishing. Book is also known as Janeway's Immunobiology
4) Essential Immunology. P.J. Delves, S.J. Martin, D.R. Burton, Roitt, I.M. (eds) (2011). Wiley-Blackwell 12th edition.
5) Abul K. Abbas & Andrew H. Lichtman, S. Pillai (2017). Cellular and Molecular Immunology. 9th edition. Elsevier Science/Saunders, Philadelphia.

Course content-related study coaching

Teacher available for student counselling

Assessment moments

end-of-term 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

Possibilities of retake in case of permanent assessment

not applicable

Extra information on the examination methods

Theory: written examination

Calculation of the examination mark

Out of 20:
20 points attributed to written exam
Students who eschew period aligned evaluations for this course unit may be failed by the examiner.