GHENT UNIVERSITY

Course Specifications

From the academic year 2021-2022 up to and including the academic year

Aquaculture in the Ecosystem (I002862)

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

Credits 7.5	**Study time 200 h**	**Contact hrs** 60.0h

Course offerings in academic year 2022-2023

A (semester 1)	English	Gent

Lecturers in academic year 2022-2023

Reitan, Kjell Inge	TRONDH01	lecturer-in-charge
Olsen, Yngvar	TRONDH01	co-lecturer

Offered in the following programmes in 2022-2023	**crdts**	**offering**
International Master of Science in Health Management in Aquaculture	7.5	A

Teaching languages

English

Keywords

Ecosystem effects of aquaculture, waste generation and assimilation, spread of disease, alien species, genetic interactions and IMTA.

Position of the course

This course will provide a research-based understanding of developments in sea-based aquaculture, with a focus on environmental, technological and biological challenges that need to be resolved to ensure a sustainable development of the aquaculture sector. The main focus of the course will be on the sea-based aquaculture and environmental aspects related to it. However, mussel farming, cultivation of macroalgae and integrated multitrophic aquaculture (IMTA), and the importance of these within an ecological understanding of the aquaculture will be covered

Contents

The course will treat the challenges of the growth of the aquaculture sector, general marine ecology, water transport models, waste from fish farming, genetic interactions, parasite dynamics linked to fish farming, spread of diseases, introduction of alien species, artificial reef issues, coastal zone planning and new sustainable feed raw materials.

Initial competences

Competence for admission to EM AquaH study program and first semester courses at UGent. Batchelor of marine science and aquaculture for national program MSOCEAN

Final competences

1 Candidates will understand ecological interactions between marine aquaculture and the marine environment, including aquaculture installations, operation of seabased farms, possible genetic interactions of fish farming, spread of parasites and the use of feed resources.
2 Candidates will gain an understanding of the principles for future sustainable aquaculture production and which bottlenecks that is critical for such development.
3 He / she should also be able to put Norwegian aquaculture into a global situation.
4 Candidates should be able to describe principles for evaluating interactions between environment and aquaculture, and understanding future trends in

aquaculture.

5 Candidates should have good knowledge of comprehensive solutions for planning and operating sea-based aquaculture facilities.

6 He / she must understand the dynamics of the marine ecosystem and learning forms and activities

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

Lecture: plenary exercises, Group work, Lecture

Extra information on the teaching methods

Lectures: 30 hours, optional 1-2 days excursion, study report/semester assignment: 10 days. Compulsory assignments: Approved report

Learning materials and price

Learning materials include optional costs for excursion. PowerPoint lectures and other materials are made available for free on the web

References

Course content-related study coaching

Guiding upon request, workshop lecture for practical task, optional organisation and participation in excursion, 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

Portfolio, Oral examination, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible

Extra information on the examination methods

Written exam counts 60/100 and assignment 40/100. All assessment components included in the course must be passed. In the case of 'fail' or 'retake', only the final examination needs to be re-taken. The individual components will not be graded and assessment consists of an overall final grade.

Calculation of the examination mark

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