GHENT UNIVERSITY

Course Specifications

From the academic year 2024-2025 up to and including the academic year

Aquatic Farm Management Training (I003026)

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

Credits 6.0 **Study time 180 h**

Course offerings in academic year 2025-2026

A (semester 2)	English	Gent

Lecturers in academic year 2025-2026

Declercq, Annelies	LA22	lecturer-in-charge
Rekecki, Anamaria	LA22	co-lecturer

Offered in the following programmes in 2025-2026	**crdts**	**offering**
Master of Science in Aquaculture	6	A

Teaching languages

English

Keywords

Management and zootechnical, economical and societal aspects of aquaculture implants, excursion.

Position of the course

This course offers a comprehensive exploration of both lab facility management, continued from semester 1, and aquatic farm management practices within the field of aquaculture.
Foundational concepts in lab facility management are covered, emphasizing risk assessment, safety protocols, and biosafety awareness. Students will be involved in the practical knowledge of effective lab facility management practices.
The practical component includes hands-on demonstrations, and daily involvement in lab facility management in the lab of Aquaculture and Artemia Reference Center. Students focus on water quality management, disease prevention and control strategies, and accurate record-keeping.
Additionally, the course includes a one-week excursion to a European region with significant aquaculture relevance. During this excursion, students visit various algae, fish, shrimp, mussel, and/or oyster farms, as well as aquaculture research institutes.
The student will learn to analyze economical, managerial, environmental, and zootechnical aspects of the farms, gaining practical insights into water treatment systems, tank design, hygiene, prevention, life food departments, transportation, and culture aspects.
Students also explore market prices, production schedules, and expenses, while discussing sustainable aquaculture practices and waste management.
Finally, the course ensures students gain familiarity with local and international regulations governing aquaculture practices, emphasizing a commitment to ethical and legal standards in the field.

Contents

The content of the excursion includes:

- **Overview of extensive and intensive aquaculture farms:** Students will gain insight into both extensive and intensive aquaculture farming methods by visiting a variety of farms. This will provide them with a comprehensive understanding of different farming practices and their applications.

- **Group visits to aquaculture farms:** Students will participate in group visits to various aquaculture farms, including algae, fish, shrimp, mussel, and/or oyster farms. These visits will allow students to analyze economical, managerial, environmental, and zootechnical aspects of the farms, gaining practical insights into water treatment systems, tank design, hygiene, prevention, life food departments, transportation, and culture aspects.
- **Discussion of sustainable aquaculture practices:** Throughout the course and excursion, students will engage in discussions about sustainable aquaculture practices and waste management. This will enable them to explore the environmental and ethical considerations involved in aquaculture operations.
- **Regulatory familiarization:** The course ensures students gain familiarity with local and international regulations governing aquaculture practices, emphasizing a commitment to ethical and legal standards in the field.
- **Foresight:** Students will learn how to cope with environmental changes, socio-economic impacts, and gain different insights into long-term predictions, enabling them to make informed decisions in aquatic farm management.

Overall, this course focuses on practical experience in both lab facility management and aquatic farm management, preparing them for careers in the aquaculture industry.

Initial competences

Lab facility management part 1 (sem1), general biology, chemistry, biochemistry and basic knowledge on aquaculture.

Final competences

1 The student can further develop and apply their proficiency in lab facility management practices, including:
   - Advanced implementation of risk assessment and safety protocols to enhance biosafety awareness.
   - Continued application of theoretical knowledge to real-world situations, with an emphasis on advanced case studies and practical examples.

2 The student demonstrates advanced practical proficiency in:
   - Water quality management:
     - Advanced monitoring and maintenance of optimal water quality parameters, including pH, temperature, dissolved oxygen, and salinity, with a focus on troubleshooting and problem-solving.
   - Disease prevention and control:
     - Advanced application of strategies for preventing and controlling diseases in aquatic organisms, with a focus on advanced quarantine protocols and disease management techniques.
   - Record-keeping:
     - Advanced practice of accurate record-keeping, including the compilation and analysis of data from aquaculture systems. This includes detailed documentation of feeding schedules, water quality measurements, and health observations, with an emphasis on data interpretation and decision-making.
   - Broodstock management of crustaceans:
     - Advanced engagement in practical activities related to the care and maintenance of crustacean broodstock, with a focus on advanced breeding techniques and genetic management.
   - Environmental sustainability and waste management:
     - Integration of advanced environmental sustainability practices into daily aquaculture facility management, with a focus on waste management and resource efficiency.
   - Ethical and legal standards:
     - Continued understanding and adherence to ethical and legal standards in daily lab facility management, with an emphasis on advanced regulatory compliance and ethical decision-making.

3 The student gains advanced understanding and proficiency in:

- Zootechnical aspects of aquaculture farm management:
  - Advanced understanding and description of the zootechnical aspects of running an aquaculture farm, including water treatment systems, tank design, hygiene, prevention, life food departments, transportation, and culture aspects.
- Economics of aquaculture farm management:
  - Understanding of the economic factors involved in running an aquaculture farm, including market prices of larvae and finished products, production schedules vs. expenses, and economic analysis techniques.
- Reporting on zootechnical, environmental, and economic aspects:
  - Proficient reporting on the zootechnical, environmental, and economic aspects of running an aquaculture farm, integrating advanced knowledge and practical experience gained during the course.

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

Group work, Excursion, Lecture, Independent work, Peer teaching

Extra information on the teaching methods

Theory lectures: interactive lectures based on powerpoint presentations.
Microteaching: student presentations during interactive lectures.
Lab facility management.
Excursion: farm and research institute visits.

Study material

Type: Excursion

Name: The excursion costs
Indicative price: € 600
Optional: no
Additional information: The excursion costs not more than 600 euro (VLIR scholarship students do not have to pay the excursion cost).

References

Course content-related study coaching

Study guidance upon request by email or on appointment.

Assessment moments

end-of-term and continuous assessment

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

Oral assessment

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

Oral assessment

Examination methods in case of permanent assessment

Participation, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is not possible

Extra information on the examination methods

Period aligned evaluation: excursion: report defense.
Non-period aligned evaluation: lab facility management, excursion and microteaching: participation, presentation and report.

Calculation of the examination mark

Out of 20:
Lab facility management : 8 out of 20 points
Farm management excursion and report : 12 out of 20 points
- 6 points attributed to the excursion-report

• 6 points on the presentation and defense of excursion report

Students that do not attend lab facility management, the excursion or the microteaching sessions without a valid reason, should retake the course the next academic year.

Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.