

- **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.