Course Specifications
Valid as from the academic year 2020-2021

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

Marine Fish Larviculture (I002793)

Course

Specifications

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

Credits 6.0
Study time 180 h
Contact hrs 60.0 h

Course offerings in academic year 2020-2021
A (semester 2) English Gent

Lecturers in academic year 2020-2021
Van Stappen, Gilbert LA22 lecturer-in-charge

Offered in the following programmes in 2020-2021

<table>
<thead>
<tr>
<th>Programme</th>
<th>crdts</th>
<th>offering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master of Science in Aquaculture</td>
<td>6</td>
<td>A</td>
</tr>
<tr>
<td>Exchange Programme in Bioscience Engineering: Agricultural Sciences (master's level)</td>
<td>6</td>
<td>A</td>
</tr>
</tbody>
</table>

Teaching languages
English

Keywords
Hatchery, live food, zooplankton, Artemia, rotifers, fish larvae.

Position of the course
The aim of this course is to give a general overview of larviculture, focusing on the necessity to produce live food. The different aquatic invertebrates that can be used as live food are highlighted, including their natural availability, general characteristics, culture techniques and fields of application in larviculture of mainly marine fish. The theoretical knowledge is put into practice by various practical classes.

Contents

1. Introduction to larviculture as a whole with focus on marine fish species: principles, techniques, successes and bottlenecks, perspectives, crucial role of live food
2. Artemia biology, ecology and taxonomy and strain study; production of cysts and biomass; Artemia applications in aquaculture
3. Production techniques and applications of rotifers and other zooplankton organisms
4. Larviculture of marine fish species: general feeding strategies and zootechnical aspects of coldwater and tropical species
5. Larviculture and live feed production practical classes with Clarias as example

Initial competences
General biology, chemistry, biochemistry and basic knowledge on aquaculture.

Final competences
1. The student has knowledge on general principles of larviculture, such as techniques used, future perspectives, and especially crucial role of live food in larviculture.
2. The student has knowledge on various aspects of different live food organisms (rotifers, Artemia cysts and biomass, other zooplankton organisms) used in larviculture, such as their advantages and restrictions, availability, production techniques and fields of application.
3. The student has knowledge on various aspects (such as nutrional and zootechnical) of larviculture of marine fish species.
4. The student is able to apply practical techniques related to use of Artemia in larviculture (such as cyst decapsulation, nauplius enrichment, cyst quality control) and can report about them.
5. The student is able to run rotifer batch culture and has insight into rotifer recirculation

(Approved)
production systems, and can report about this.

6 The student is able to run larval fish culture tests, including aspects such as supply of artificial and live food (calculation of needed amounts of artificial and live food), zootechnical aspects including maintenance of recirculation system, analysis of parameters related to fish larval growth); and is able to report about this in a written report in the format of a scientific paper.

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
Guided self-study, lecture, practicum

Extra information on the teaching methods
Theory lectures: lectures based on powerpoint presentations.
Practical classes: Clarias feeding experiment, rotifer culture (feeding, density measurement, egg ration, harvesting), Artemia culture (cyst decapsulation, nauplius enrichment, cyst processing, cyst quality control (hatching, biometrics, water content).

Learning materials and price
Printouts of the powerpoint presentation will be available during all classes.
Estimated cost of the printouts: 20 euro (included in fee that is paid in the beginning of the academical year).

References
Manual on the production and use of live food for aquaculture, FAO fisheries technical paper no 361

Course content-related study coaching
Study guidance upon request by email or on appointment.

Evaluation methods
derm-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period
Written examination

Examination methods in case of periodic evaluation during the second examination period
Written examination

Examination methods in case of permanent evaluation
Participation, report

Possibilities of retake in case of permanent evaluation
examination during the second examination period is possible

Extra information on the examination methods
Non-period aligned evaluation: practical classes: participation and report.

Calculation of the examination mark
Out of 20:
16 points attributed to written exam
4 points attributed to report on practical classes

Students that do not attend practical classes 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.