

## Freshwater Fish Culture Techniques (1002788)

Wegens Covid19 kan mogelijk afgeweken worden van de onderwijs- en evaluatievormen. Dergelijke afwijkingen zullen via Ufora worden gecommuniceerd.

<b>Cursusomvang</b>	<i>(nominale waarden; effectieve waarden kunnen verschillen per opleiding)</i>		
Studiepunten <b>6.0</b>	Studietijd <b>180 u</b>	Contacturen	60.0 u
<b>Aanbodsessies in academiejaar 2022-2023</b>			
A (semester 1)	Engels	Gent	

### Lesgevers in academiejaar 2022-2023

Nevejan, Nancy LA22 Verantwoordelijk lesgever

### Aangeboden in onderstaande opleidingen in 2022-2023

	stptn	aanbodsessie
<a href="#">Master of Science in Aquaculture</a>	6	A
<a href="#">Uitwisselingsprogramma bio-ingenieurswetenschappen: landbouwkunde (niveau master-na-bachelor)</a>	6	A

### Onderwijstalen

Engels

### Trefwoorden

Trout, carp, tilapia, eel, catfish, polyculture, rizi-pisciculture, integrated fish culture, feeding level, productivity, specific growth rate, food conversion rate, recirculation system, cage culture, oxygenation, exploitation plan, artificial reproduction.

### Situering

This course offers a general introduction to fish culture and focusses on culture of freshwater fish of temperate and tropical regions. Different culture systems are explained such as ponds, cages and recirculation systems. Attention is paid to aeration, grading and feeding systems. Integrated pisciculture explains the different types of possible mixed aquaculture and agriculture production methods, and its advantages, pathways and drawbacks. As a practical case-study of fish culture and artificial reproduction, the African catfish (*Clarias gariepinus*) is used. A practical pond construction field work is included and students write an exploitation plan for a freshwater fish farm.

### Inhoud

Freshwater fish culture

1. Tilapia farming and aquaculture principles
2. Carp farming and polyculture
3. Carp reproduction - reproduction of tropical species
4. Trout - eel - catfish farming, intensive farming in recirculation systems
5. Exercise : design of an exploitation plan for a tilapia farm
6. Pondconstruction: theory and fieldwork
7. Practical on artificial reproduction in African catfish (*Clarias gariepinus*)
8. Principles of a recirculation system

Integrated agro-aquaculture

1. Different combinations of fish culture with agriculture production: performance, nutrient balans, economics
2. Agro-aqua exercise

Technics in fish culture

1. Aeration technics, feeding systems, principle of cage culture

### **Begincompetenties**

General biology, chemistry and biochemistry.

### **Eindcompetenties**

- 1 The student has knowledge on the cultivation techniques of freshwater fish (reproduction, larviculture, grow-out).
- 2 The student has knowledge on specific machines used in a commercial fish production plant.
- 3 The student has a good knowledge on advantages and disadvantages of integrated agro-aquaculture.
- 4 The student is able to manage and exploit a freshwater fishfarm (amount and sizes of different tanks and pond, harvest cycles, need of water and feed, productivity, food conversion rate).
- 5 The student is able to construct ponds.
- 6 The student is able to reproduce naturally or artificially farmed fish species (based on their experience with *Clarias gariepinus*).

### **Creditcontractvoorwaarde**

Toelating tot dit opleidingsonderdeel via creditcontract is mogelijk mits gunstige beoordeling van de competenties

### **Examencontractvoorwaarde**

Dit opleidingsonderdeel kan niet via examencontract gevolgd worden

### **Didactische werkvormen**

Begeleide zelfstudie, hoorcollege, practicum, veldwerk, hoorcollege: plenaire oefeningen

### **Toelichtingen bij de didactische werkvormen**

Theory lectures: lectures based on powerpoint presentations and videos.

Practical classes: pond construction field work and artificial reproduction lab work with *Clarias* in small groups.

Guided selfstudy: writing of an exploitation plan for a freshwater fish farm.

Fieldwork : pond construction

Lecture with plenary exercise

### **Leermateriaal**

Printout 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).

### **Referenties**

### **Vakinhoudelijke studiebegeleiding**

Study guidance upon request by email or on appointment.

### **Evaluatiemomenten**

periodegebonden en niet-periodegebonden evaluatie

### **Evaluatievormen bij periodegebonden evaluatie in de eerste examenperiode**

Schriftelijk examen

### **Evaluatievormen bij periodegebonden evaluatie in de tweede examenperiode**

Schriftelijk examen

### **Evaluatievormen bij niet-periodegebonden evaluatie**

Participatie, verslag

### **Tweede examenkans in geval van niet-periodegebonden evaluatie**

Examen in de tweede examenperiode is mogelijk

### **Toelichtingen bij de evaluatievormen**

Period aligned evaluation: theory: written closed book exam.

Non-period aligned evaluation: practical classes, exploitation plan and field work: participation and report.

### **Eindscoreberekening**

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.