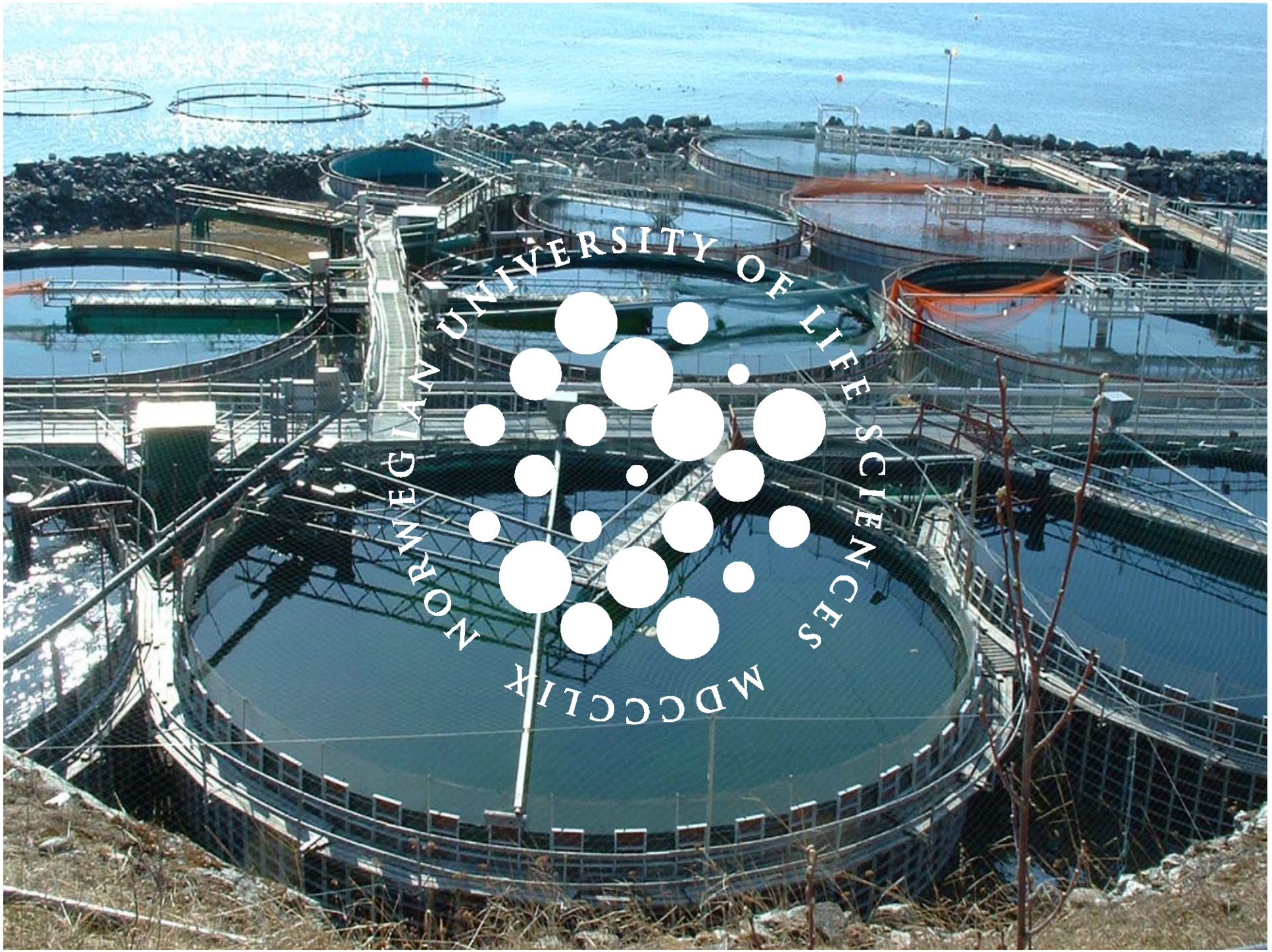
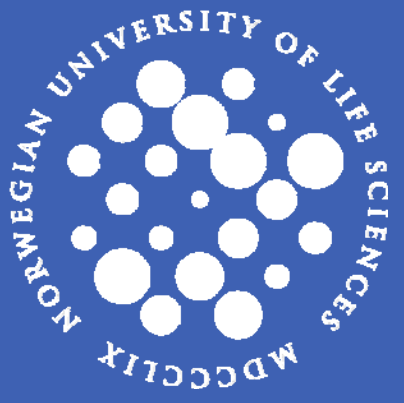

NORWEGIAN UNIVERSITY OF LIFE SCIENCES
MDCCCLIX

Internationalisation of aquaculture education

Odd-Ivar Lekang



2111
2005

UMB, long history in aquaculture education

- 1887 establishing of a hatchery and a small fish pond
- 1921 fishery management included as separate subject in the curriculum UMB
- Modern aquaculture research in Norway starts in 1960s when professor H. Skjervold at UMB starts using rainbow trout as laboratory animals for breeding experiments. In 1970 succeeded to breed salmon in the sea.
- 1973 UMB the first institution in Norway teaching modern aquaculture
- 1980s and 90s, full BSc and MSc programmes in aquaculture and aquaculture engineering
- Today above 20 courses in different aquaculture topics
- over 2000 students exams either in individual courses or full study programmes at BSc, MSc and PhD level.
- The Norwegian University of Life Sciences (UMB) is the educational institution that has trained most candidates in aquaculture in Norway.

Today's situation

- Globalisation of the aquaculture industry
- Multinational companies
- Easier and cheaper to travel
- Students wants to travel
- Internett make education more mobile

Result

Interesting with internationalisation of the education

NOVA – University network, an example

- A common virtual University communication platform for all Veterinary medicine, Animal Husbandry, Agricultural and Forestry faculties in the Nordic countries
- An Education platform formed for aquaculture and freshwater management

NOVA Educational Network
Aquaculture and Fishery Management

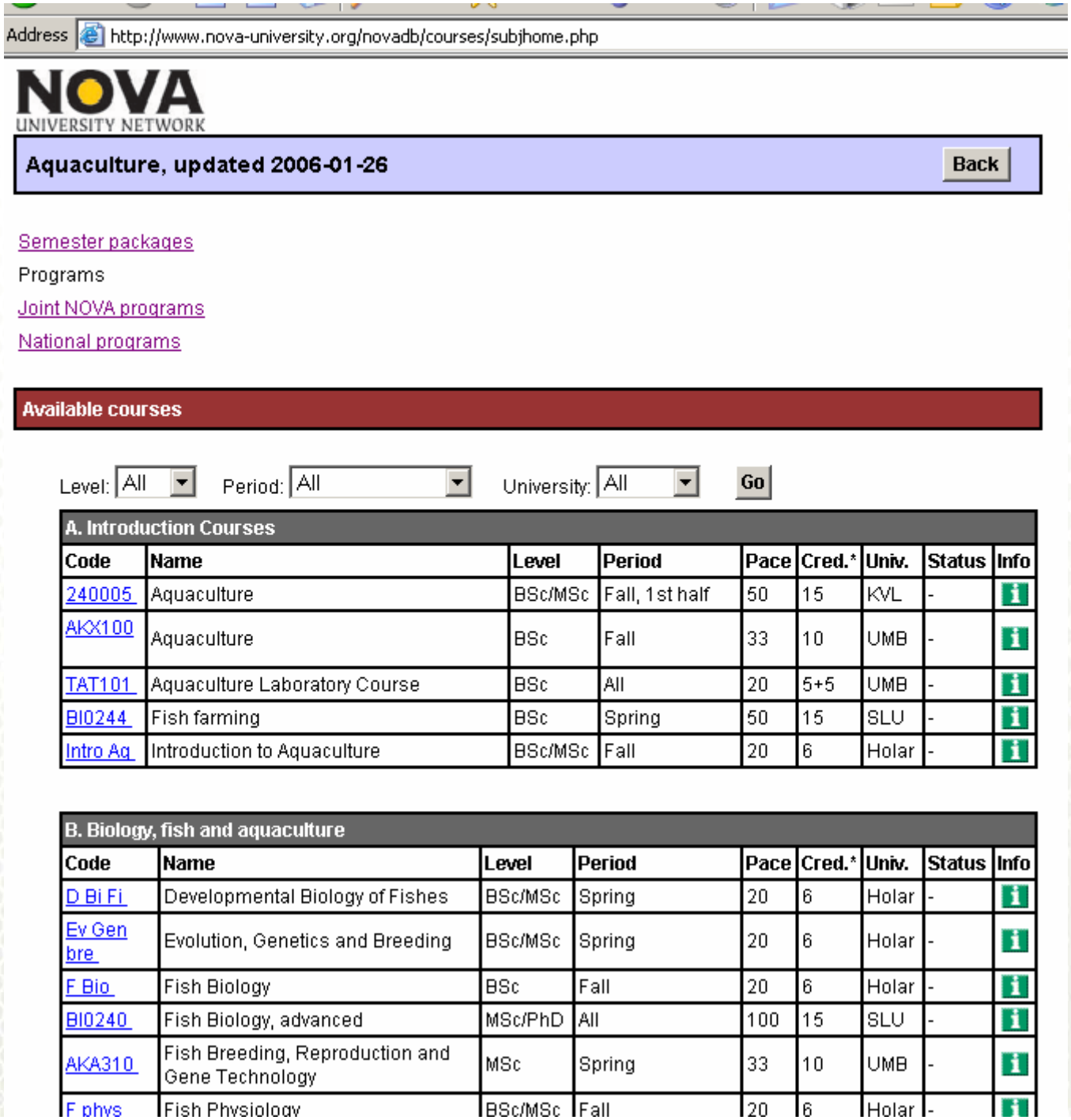
How to improve student mobility

- Simple information
- Easy to find information
- Simple to travel
- Cheap to travel

Solution

- **Nova education platform**
- Web based program and course catalogue
- Categorizing and structure ring the courses

NOVA Educational Network
Aquaculture and Fishery Management



Address http://www.nova-university.org/novadb/courses/subjhome.php

NOVA
UNIVERSITY NETWORK

Aquaculture, updated 2006-01-26 Back

Semester packages

Programs

Joint NOVA programs

National programs

Available courses

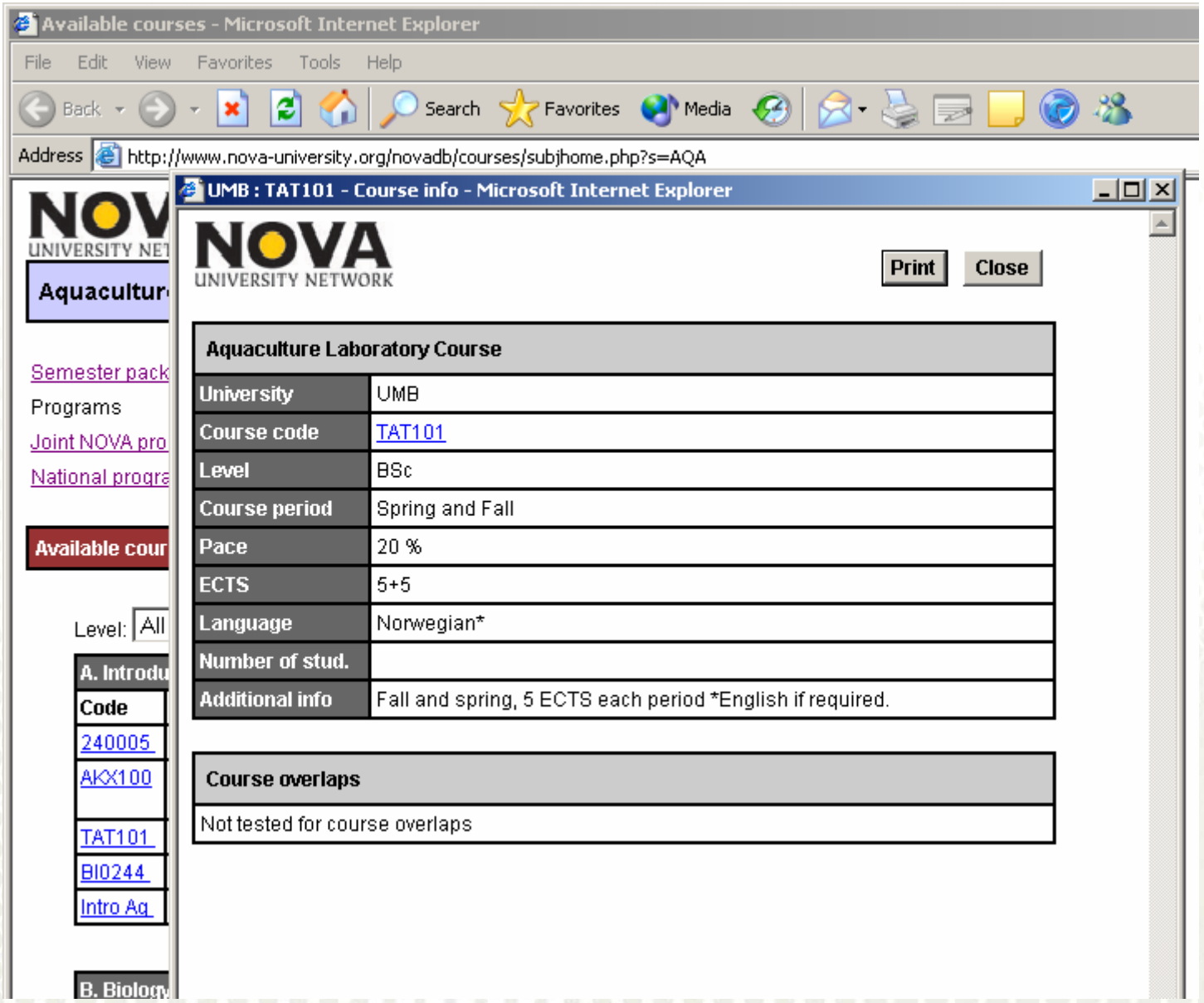
Level: All Period: All University: All Go

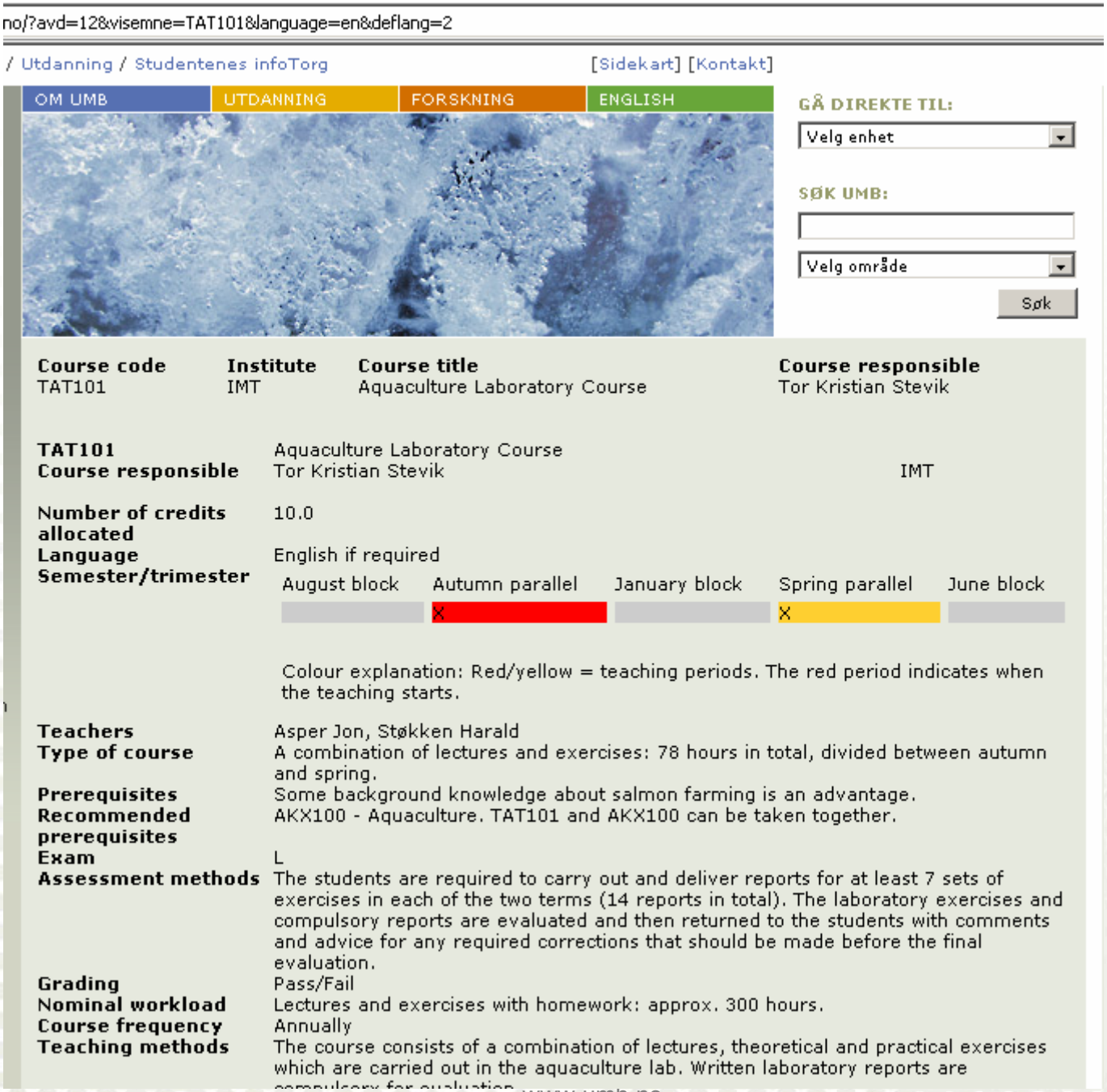
A. Introduction Courses

Code	Name	Level	Period	Pace	Cred.*	Univ.	Status	Info
240005	Aquaculture	BSc/MSc	Fall, 1st half	50	15	KVL	-	
AKX100	Aquaculture	BSc	Fall	33	10	UMB	-	
TAT101	Aquaculture Laboratory Course	BSc	All	20	5+5	UMB	-	
BI0244	Fish farming	BSc	Spring	50	15	SLU	-	
Intro Aq	Introduction to Aquaculture	BSc/MSc	Fall	20	6	Holar	-	

B. Biology, fish and aquaculture

Code	Name	Level	Period	Pace	Cred.*	Univ.	Status	Info
D Bi Fi	Developmental Biology of Fishes	BSc/MSc	Spring	20	6	Holar	-	
Ev Gen bre	Evolution, Genetics and Breeding	BSc/MSc	Spring	20	6	Holar	-	
F Bio	Fish Biology	BSc	Fall	20	6	Holar	-	
BI0240	Fish Biology, advanced	MSc/PhD	All	100	15	SLU	-	
AKA310	Fish Breeding, Reproduction and Gene Technology	MSc	Spring	33	10	UMB	-	
F phys	Fish Physiology	BSc/MSc	Fall	20	6	Holar	-	


Available courses - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://www.nova-university.org/novadb/courses/subjhome.php?s=AQA
UMB : TAT101 - Course info - Microsoft Internet Explorer
NOVA
UNIVERSITY NETWORK
Print
Close
Aquaculture Laboratory Course
University UMB
Course code TAT101
Level BSc
Course period Spring and Fall
Pace 20 %
ECTS 5+5
Language Norwegian*
Number of stud.
Additional info Fall and spring, 5 ECTS each period *English if required.
Course overlaps
Not tested for course overlaps
Semester pack
Programs
Joint NOVA pro
National progra
Available cour
Level: All
A. Introdu
Code
240005
AKX100
TAT101
BI0244
Intro Aq
B. Biology



no/?avd=12&visemne=TAT101&language=en&deflang=2

/ Utdanning / Studentenes infoTorg [Sidekart] [Kontakt]

OM UMB | UTDANNING | FORSKNING | ENGLISH

GÅ DIREKTE TIL: Velg enhet

SØK UMB: Velg område Søk

Course code	Institute	Course title	Course responsible
TAT101	IMT	Aquaculture Laboratory Course	Tor Kristian Stevik

TAT101	Aquaculture Laboratory Course
Course responsible	Tor Kristian Stevik IMT
Number of credits allocated	10.0
Language	English if required
Semester/trimester	August block: ; Autumn parallel: X; January block: ; Spring parallel: X; June block:
	Colour explanation: Red/yellow = teaching periods. The red period indicates when the teaching starts.
Teachers	Asper Jon, Støkken Harald
Type of course	A combination of lectures and exercises: 78 hours in total, divided between autumn and spring.
Prerequisites	Some background knowledge about salmon farming is an advantage.
Recommended prerequisites	AKX100 - Aquaculture. TAT101 and AKX100 can be taken together.
Exam	L
Assessment methods	The students are required to carry out and deliver reports for at least 7 sets of exercises in each of the two terms (14 reports in total). The laboratory exercises and compulsory reports are evaluated and then returned to the students with comments and advice for any required corrections that should be made before the final evaluation.
Grading	Pass/Fail
Nominal workload	Lectures and exercises with homework: approx. 300 hours.
Course frequency	Annually
Teaching methods	The course consists of a combination of lectures, theoretical and practical exercises which are carried out in the aquaculture lab. Written laboratory reports are

Next step

- **Identify equal courses and unique courses**

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Aquaculture and Fishery Management

Why identify equal courses

- Help students to se which courses that is equal, and that could replace and other course, compared to bindings
- Example - to take TAT 210 it is recommended with AKX 100. This is however quit equal to for example Aquaculture at KVL (048017) showed in in the Nordic platform.
- By having this courses in their home country the students can go directly to TAT 210 without thinking any more
- This cross approval process ought to be done once for all, so all the students can utilize it

NOVA Educational Network
Aquaculture and Fishery Management

Why identify unique courses

- Get Nova status on the courses, easier to get funding for travel
- Not necessary for other Nordic countries to double
- By increasing the amount of courses for the students they get more freedom to choice
- The network Universities get more attractive because we totally can offer a large variation with in the courses

NOVA Educational Network
Aquaculture and Fishery Management

Develop semester packages of course

Available semester packages

Fish biology and management SLU1 SLU

Code	Name	Level	Period	Pace	Cred.*	Univ.	Status	Info
BI0240	Fish Biology, advanced	MSc/PhD	All	100	15	SLU	-	
BI0558	Fish and Wildlife Management	MSc	Spring, 2nd half	100	15	SLU	-	

Production technology 1 Atech1 UMB

Code	Name	Level	Period	Pace	Cred.*	Univ.	Status	Info
TAT211	Production technology in Aquaculture	BSc/MSc	Spring	33	10	UMB	-	
TAT101	Aquaculture Laboratory Course	BSc	All	20	5+5	UMB	-	
TAT230	Design of Equipment for Norwegian Aquaculture Fascilities	BSc/MSc	Spring	33	10	UMB	-	
TAT220	New Species in Norwegian Fish Farming	BSc	June	100	5	UMB	-	

Production technology 2 Atech2 UMB

Code	Name	Level	Period	Pace	Cred.*	Univ.	Status	Info

Experiences with the platform

- Very good marketing platform
  - In the Nordic countries but also word wide
- Better use of total teaching recourses
- The base can be adjusted once a year in addition with the reconstruction of the study handbooks, possible to do it automatically
- Develop common web-based courses, and joint BSc (?) and MSc programs

NOVA Educational Network
Aquaculture and Fishery Management

International Aquaculture Education Network - IAEN

Aim

To facilitate a co-operation and mobility in the field of higher aquaculture education, BSc, MSc and PhD.

|Action plan

- *Networking*: flow of information about the IAEN activities among all participants in order to attract students world-wide. Own website WWW.IAEN.INFO.
- *Master Courses*: high-quality integrated courses at masters level offered by the partners universities. enables a study period in for instance two universities, may recognised a double diploma.
- A *scholarship* scheme for graduate students. The scheme will address highly qualified individuals from countries that IAEN has elected to be target countries for aquaculture development.
- *Enhancing attractiveness*: support projects aimed at enhancing the attractiveness of the member universities of higher aquaculture education. It should support activities that improve the profile, the visibility and the accessibility of IAEN-members, e.g. mobility of researchers between the member universities.

IAEN International Aquaculture Education Network

HELP

HOME | ABOUT US | MEMBERS | AIMS | OPERATIONAL ACTIONS | CONTACT US

International Aquaculture Education Network

The University of Life Sciences has taken the initiative to establish an International Aquaculture Education Network. IAEN is an international education and research cooperation in aquaculture at BSc, MSc and PhD level.

The goal is to enhance the quality of the higher aquaculture education facilitated by the IAEN partners and thus the attractiveness to students world-wide. Masters Courses and scholarships provided by the network should also provide a framework to promote valuable exchange and dialogue between cultures. By supporting the international mobility of scholars and students, IAEN intends to prepare its participants for life in a global, knowledge-based society.

Target participants: Educational institutions worldwide, governmental bodies of aquaculture countries, aquaculture related business partners

Administration of the Network: UMB, via the department of Animal and Aquacultural Sciences, will function as the main node/secretariat for the network until a more permanent and, eventually, separate staff function is established.

HOME ABOUT US MEMBERS CONTACT US HELP

LAST NEWS

2006/03/16
::: MET US AT AQUA SOUR

Next week, the Aqua Sur fair will take place in Chile, and you can find IAEN presented at the UMB stand, B92.
Please visit the stand, and sign up if you have not done so already.

Hans Magnus Gjøen,
Professor
Fish Breeding and Genetics

::: Next meeting:
It is planned a new network seminar, in connection to Aqua-Nor, August 2007.

International Aquaculture Education Network - IAEN

- **TARGET PARTICIPANTS:** Educational Institutions worldwide, govern-mental bodies of aquaculture countries, aquaculture related business partners
- **Next network meeting:** It is planned a new network seminar, in connection to Aqua-Nor, August 2007.
- **We welcome your input to this plan and cooperation, and invite you to sign up as a formal member.**