BIO080   VIRTUE online: Ocean literacy through studies of biodiversity, 7.5 credits

VIRTUE online: Kunskap om havet genom studier av biologisk mångfald, 7,5 högskolepoäng

First Cycle

Confirmation

This course syllabus was confirmed by Department of Biological and Environmental Sciences on 2020-10-20 to be valid from 2021-01-18, spring semester of 2021.

Field of education: Science 100%
Department: Department of Biological and Environmental Sciences

Position in the educational system

The course is a continuing professional development course directed mainly to professionally active elementary- and upper secondary school teachers, teacher students, tourist guides or diving instructors.

Main field of studies	*Specialization*
Biology	G1N, First cycle, has only upper-secondary level entry requirements

Entry requirements

General entrance requirements

Learning outcomes

On successful completion of the course the student will be able to:

Knowledge and understanding

On successful completion of the course the student will be able to:

- describe the basics and educational resources of the of VIRTUE project
- describe the basics of Project Based Learning
- describe the stages of biofouling
- describe the importance of biodiversity in the sea
- describe the importance of the ocean for humanity

Competence and skills
- use VIRTUEs database
- produce microscope photographs
- calculate biodiversity indices
- create engaging hands-on activities related to the ocean
- bring Ocean Literacy to the class via the VIRTUE-s project

The course is sustainability-related, which means that at least one of the learning outcomes clearly shows that the course content meets at least one of the University of Gothenburg's confirmed sustainability criteria.

Course content

The course is divided into five different components (modules):

1. Introduction of the VIRTUE-s project and its material
2. Marine biofouling and biological diversity
3. Ocean Literacy
4. How to organize hands-on activities in the classroom on VIRTUE -s and Ocean Literacy
5. Project assignment

The main objective of the course is to develop digital and practical tools to increase the quality of teaching natural sciences using ocean-based examples. The course aims to teach youngsters, through educating and inspiring their teachers, about the ocean and make them more ocean literate. The course is based on the unique methodology of the VIRTUE project www.virtue-s.eu, and is a great way to learn about and measure biodiversity of aquatic environment through the accumulation of organisms (biofouling) on CD-shaped discs. The course is based on the unique methodology of the VIRTUE project www.virtue-s.eu, and is a great way to learn about and measure biodiversity of aquatic environment through the accumulation of organisms (biofouling) on CD-shaped discs.

The course starts with an introduction to the VIRTUE project. How racks are mounted and placed in water and how to identify and describe the most common biofouling species on the discs is then described. The basics of photography and microscopy are included in the course. The course participants also learn how to calculate different

biodiversity indices. By introducing Project Based Learning, the course participants get tools to create an interest in their students in various research issues and how they would design experiments and how to report their results. The VIRTUE project also creates opportunities for students and teachers to communicate with other groups via the internet to present and compare findings. Media literacy is therefore included as a course element.

The course also includes general information about the concept of Ocean literacy and specifically how the VIRTUE project aids in introducing Ocean literacy in the classroom.

The course gives examples of how other scientific subjects, but also language, media and art can be integrated into the work with the VIRTUE discs.

Form of teaching
The teaching consists of lectures in webinar form supplemented with in-depth exercises and group discussions. The course ends with the course participants developing and writing a project assignment where they clearly describe how they now work or would like to work with VIRTUE in their teaching at schools or other places. The course ends with the course participants developing and writing a project assignment where they clearly describe how they now work or would like to work with VIRTUE in their teaching at schools or other places. The course is given on quarter speed distance.

Language of instruction: English

Assessment
The learning outcomes are examined by questions and assignments after each module and by a written report. The course is furthermore examined through submission of a project work that is presented orally and in writing.

If a student, who has been failed twice on the same course component being examined, wishes to change examiner before the next examination, a written application shall be sent to the department responsible for the course, and shall be granted, unless there are special reasons to the contrary (Chapter 6, Section 22, Higher Education Ordinance).

If a student has received a recommendation from the University of Gothenburg regarding study support for students with disabilities, the examiner may decide, in the case where this is compatible with the learning outcomes for the course, and provided no unreasonable resources are required, to give the student an adjusted examination or an alternative form of examination.

In case the course has been discontinued or undergone any larger changes the student is guaranteed access to at least three additional examination sessions (including regular

examination sessions) within the time of at least one year. The same applies to placements and professional placements (VFU), although this is restricted to just one additional examination session.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).
In the course, one of the grades is given Passed with distinction (VG), Pass (G) and Fail (U). To achieve the grade Pass, attendance at group discussions and the oral presentation and Pass are required on the project work. To achieve the grade Pass with distinction, attendance at group discussions and the oral presentation and Pass with distinction are required on the project work.

Course evaluation

A written and anonymous course evaluation is carried out upon completion of the course. The result of possible changes in the course content are communicated both to the students who carried out the evaluation and to the students who will start the following course.