



EUROPEAN UNIVERSITY OF THE SEAS

Blended Intensive Program / Template

Important note: students interested in this program have to apply to their home university according to the internal procedure. Students' applications made directly to the hosting institution will not be considered.

General information

Course Title	Applications of Environmental DNA in monitoring and managing invasive alien species (GuardIAS Summer School)
BIP Code	2025-1-NO01-KA131-HED-000335081-1
Abstract: (few lines describing the course that SEA-EU partners can use for dissemination)	<p>This BIP course is held as a part of Nord Summer School 2026 and GuardIAS summer school.</p> <p>This interdisciplinary course introduces environmental DNA (eDNA) as a tool for monitoring invasive alien species (IAS) across aquatic systems. Students learn the theoretical foundations and practical workflow of eDNA, including established and novel eDNA methods with applications within the context of IAS detection and management.</p> <p>Invasive alien species (IAS) have led to a sharp decline in local biodiversity and ecosystem functions across multiple aquatic environments. Rapid early detection, identification, monitoring</p>

	<p>and management of IAS is therefore highly essential and has become a priority within Europe.</p> <p>Environmental DNA (eDNA)-based methods have recently gained traction as an innovative tool for studying biodiversity and in the early detection and monitoring of IAS. eDNA refers to genetic material that organisms leave behind in water, soil, or air, and it is increasingly used across fundamental and applied research fields such as ecology, conservation, and biomonitoring. Molecular approaches overcome certain challenges related to cryptic species or species with morphologically indistinguishable features and can be highly sensitive to detect rare and elusive species.</p> <p>In this course, students will gain an understanding of the theoretical foundations of eDNA, including how it originates, persists, and moves through different environments. The course covers methods for detecting IAS within both freshwater and marine systems, with real-world examples, as well as lectures and discussions on current applications and challenges of eDNA-based methods.</p>
Calendar	<p>The students apply directly to Nord University. Places are awarded on first come- first served basis, until the course is full.</p> <p>Application form and course description: https://www.nord.no/en/studies/courses/sum1010</p> <p>Application form open until : 1. May</p>
Total number of hours:	
Teacher(s) in charge	Amalia Aikaterini Mailli amalia.a.mailli@nord.no
Number of participants	<p>The minimum number of participants is 10, maximum is 20</p> <p>There are no restrictions for number of places awarded to each SEA-EU university, but the places are awarded to eligible applicants on first come-first served basis.</p>
Mobility costs	This mobility is eligible for Erasmus+ funding.. Please contact your university for more information.
Contact	<p>Regarding organizational aspects: Kai-Martin Johnsen, kai-martin.johnsen@nord.no Jose de Pool Moran, jose.a.moran@nord.no</p> <p>Regarding pedagogical aspects: Amalia Aikaterini Mailli amalia.a.mailli@nord.no</p>

Pedagogical contents

Target group / Expected profile	The course is open to Master and Doctoral students in study programmes related to biology, environmental sciences and ecology. Basic lab experience and familiarity with good laboratory practices is expected.
Requirements Academic background	Language requirement : minimum English B2 (test can be taken on EU academy) Relevant academic background include knowledge in the following topics : eDNA, invasive species, biodiversity monitoring, marine and coastal ecosystems, surveillance technologies, data analysis, marine systems policy. Students with an understanding of general molecular DNA techniques, basic laboratory work experience and basic bioinformatic skills will have an advantage.
Learning objectives/outcomes:	Upon successful completion of this course, students are expected to have good knowledge of the theoretical principles underlying eDNA, and an insight into the key applications of eDNA in IAS detection, management and control. Furthermore, they should be able to describe and critically assess the main methodological steps in an eDNA workflow for IAS and should be able to evaluate the strengths and limitations of eDNA approaches for IAS compared to traditional monitoring techniques.
Any required material/software to take part to the course:	Laptop
ECTS:	3 ECTS
Evaluation:	<ul style="list-style-type: none"> • Compulsory participation (80%) in seminars. Grading rule: Approved / Not approved. Prerequisite for receiving a final grade in the course, counts 0/100 of the grade. • Oral exam / presentation based on given assignment, counts 100/100 of the grade.

	Grading rule: Approved / Not approved.
Exam	Exam grading: Passed/Failed Transcript of records will be issues in maximum 5 weeks Transcript of records can be downloaded by the student in Studentweb.
Language of the course	English

Structure of the course

	Timing	Learning Objective, Contents, Modalities of work, evaluation... any relevant information for the applicants.
Virtual part:		Preparatory session : 25.06.2026 Closing online session : 07.07.2026
Physical part:		29.06.2026 – 03.07.2026

Practical information

Accommodation recommendations		Students can apply for a room in our student housing facilites through Studentinord : https://www.studentinord.no/shorttermrentbodo
The physical mobility will take place at... (address of the course)		Nord University Campus Bodø Universitetsalleen 11 8026 Bodø, Norway
Contact of the person in charge of signing the OLA		<i>Jose de Pool Moran</i> Jose.a.moran@nord.no

