



Analytics for Leaders in Ocean Management

UBC Micro-certificate Program

UBC's Institute for the Oceans and Fisheries is offering a part-time online program which enables students to build their analytics knowledge and create solutions for sustainable-equitable development and management of blue economy conservation, marine biodiversity, and natural resources. The program is comprised of two courses:

Modelling for Marine Ecosystem-Based Management is designed for professionals working with marine or freshwater resources, including the evaluation of trade-offs in marine planning and environmental impact assessment. This 8-week course introduces participants to dynamic ecosystem modelling using the versatile Ecopath with Ecosim (EwE) framework, the world's most-widely used ecosystem modelling approach. Through hands-on exercises and weekly live lectures, students will learn to apply predator-prey models, assess ecosystem sustainability, evaluate trade-offs in management, and make data-driven decisions. Designed and instructed by Villy Christensen.

Introduction to Aquatic Data Sciences is designed for professionals and researchers passionate about oceans, fisheries, and sustainable development. This course is a gateway to understanding aquatic databases and equips students with the introductory skills to sample, visualize, and analyze data. Using aquatic databases is critical in driving sustainable practices and fostering equitable Blue Economy sectors. Through weekly live, interactive lectures with the instructors, and hands-on activities, professionals working in marine biology, ocean management, and conservation will develop an understanding of aquatic databases' contents and infrastructure. This introduction will improve students' ability to harness the wealth that these information systems offer. By enhancing data sampling skills, professionals can become more proficient data-driven decision-makers. Designed and instructed by Deng Palomares and Gabriel Reygondeau.

The program provides specialized knowledge and skills to individuals involved in collecting data from national and global aquatic databases to tackle specific issues in their communities of practice. By the end of this program, you'll be able to:

- *demonstrate increased ocean data literacy and access*
- *utilize marine environmental, biodiversity and socio-economics databases*
- *understand and apply widely used planning analytics*
- *interpret and communicate results generated from data analytics*



THE UNIVERSITY OF BRITISH COLUMBIA

Institute for the Oceans and Fisheries

Subject matter experts and instructors

Professor Villy Christensen, a globally recognized expert in marine ecosystem modelling, developed and instructs Modelling for Marine Ecosystem-Based Management. As the principal developer of the EwE modelling approach, his work has significantly influenced ecosystem-based management worldwide. Dr. Christensen is a Fellow of both the Royal Society of Canada and the American Fisheries Society. He collaborates with colleagues throughout the world, notably through international initiatives in support of IPCC and IPBES. With decades of experience, he is at the forefront of sustainable fisheries management. Dr. Christensen has taught ecosystem modelling in 28 countries.

Dr. Deng Palomares and Dr. Gabriel Reygondeau are the course developers and instructors of Introduction to Aquatic Data Sciences. Dr. Palomares is a senior scientist and manager of the *Sea Around Us* Research Unit and a renowned leader who applies data sciences in marine biology and fisheries science, while contributing to international research, education, and editorial boards. Dr. Reygondeau is an Associate Professor at the University of Miami at the Rosentiel School of Marine, Atmospheric and Earth Science, where he coordinates the Aquamap / AquaX Project. He has a strong background in biological oceanography with a focus on biogeography, macroecology, and the impact of climate change on marine ecosystems (with 119 publications on the topic).

Sessions

Modelling for Marine Ecosystem-Based Management: January 29 - March 26

Introduction to Aquatic Data Sciences: April 9 - June 6

These fully online, instructor-supported courses includes real-time classes and are held on Wednesdays evenings.

Over nine weeks, students engage in approximately 4 hours of coursework per week, combined with 2 hours of live lectures and discussions, with 2 hours of readings and assignments.

The course culminates in a final project that allows students to apply their new skills to their professional context, with the opportunity to present in video, slide, or essay format.

Grading is based on 25% participation and 75% for the final project, with a passing grade of 70% or higher required.

Note: Courses do not receive UBC credit.

2025 course fees

CAD \$1,620.00 per course
CAD \$3,240.00 for program

Information

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Details
and to
Register

