Blended Intensive Program

General information

Course Code and Title	GSC5104 - Marine Data Literacy
BIP Code	2025-MT01-KA131-HED-00324597-2
Abstract: (a few lines describing the course that SEA-EU partners can use for dissemination)	This course explores the critical role of data in shaping the digital transformation of marine services to meet stakeholder demands and enhance research and innovation, particularly within areas like Blue Growth and Mission Ocean. Students will learn how data is converted into valuable information and knowledge that is crucial to monitor, manage, and substantially use marine resources. Topics include marine spatial planning, informed decision-making, strategic planning, and policy development. The course delves into the processes of data extraction and value addition through various downstream services tailored to local user needs. It covers a broad spectrum of data types and sources, including observational and modelled data, and addresses the integration of diverse data forms such as socio-economic and ecological, as well as non-scientific and qualitative data like resource tracking, demography, and performance statistics. The execution of the course is done jointly by the SEA-EU partner universities.
Calendar	**Nominations deadline**: 26th November 2025 **Confirmation of acceptance:** 20th February 2026 Upon submission of the necessary documents by the students **Virtual Component:** L 1, Monday 2 March 2026, 5pm – 7pm; Introduction to Marine Data – Alan Deidun L2, Thursday 5 March 2026, 5pm – 7pm; Reliable oceanographic data sources

	L 3, Monday 9 March 2026, 5pm – 7pm; Online Data Portals – Adam Gauci L 4, Thursday 12 March 2026, 5pm – 7pm; Introduction to Operational Modelling – Flávio Martins L5, Monday 16 March 2026, 5pm – 7pm; An introduction to Europe's in situ open data service by the European Marine Observation Data Network (EMODnet) – Conor Delaney L 6, Thursday 19 March 2026, 5pm – 7pm; Accessing and transforming data – Giuseppe Aulicino L 7, Monday 23 March 2026, 5pm – 7pm; Fundamentals and examples of marine data analysis – Carlos Román Cascón L8, Thursday 26 March 2026, 5pm – 7pm; Managing and Processing (Big) Scientific Data – Peer Kröger, Daniyal Kazempour L 9, Monday 30 March 2026, 5pm – 7pm; Introduction to learning algorithms, neural networks and clustering – Hrvoje Kalinić L 10, Thursday 02 April 2026, 5:30pm – 7:30pm; Applying AI to Oceanography: case studies – Aleksandra Dudkowska INTRO TO PRACTICAL SESSIONS, Monday 13 April 2026, 6pm – 7pm; Introduction to Physical Mobility in Malta – Adam Gauci ● **On-site Intensive Course in Malta (physical mobility)**: 3rd to 9th May 2026 / 48 hours
Total number of hours:	22 hours online, 48 hours in person
Teacher(s) in charge	Prof. Adam Gauci
Number of participants	The minimum number of participants is 15, maximum is 25. Each SEA-EU university can nominate 2 students and are encouraged to nominate an additional 2 as a reserve (ranked in order 1 & 2) should places be available or in case of students drop outs. Equal distribution of available places among SEA EU partners

	shall be applied if applied as much as possible.
Mobility costs	This mobility is eligible for Erasmus+. Please contact your university for more information.
Contact	Regarding organisational aspects: Audrey Zammit audrey.zammit@um.edu.mt Regarding academic aspects Prof. Adam Gauci adam.gauci@um.edu.mt Erasmus Nominations and Registrations: erasmus@um.edu.mt Person responsible to sign the Online Learning Agreement: Marvic Cuschieri marvic.cuschieri@um.edu.mt

Pedagogical content

Target group / Expected student profile	This intensive course empowers students with advanced skills in sourcing, analysing, and visualising marine data to create impactful knowledge and products. Integrating diverse datasets from earth observations to numerical models, the course leverages artificial intelligence and machine learning for sophisticated data-driven modeling. It aligns with the European Commission's Blue Growth and Mission Ocean initiatives, emphasising the pivotal role of data in marine spatial planning, sustainable resource management, and policy-making. Designed for the digital age, the course prepares students to contribute to sustainable development and the evolving demands of marine services and the blue economy. The course is designed for Master and Doctoral students.
Requirements Academic background	English B2 (test can be taken on EU academy)
Selection of Participants and selection criteria	Done by the Home / Sending University
Learning objectives/outcomes:	• Identify different types and formats of available scientific data; • Demonstrate knowledge of data processing techniques and extract meaningful insights from scientific data; • Apply principles of coastal resource management,

	mainly Integrated Coastal Zone Management (ICZM), using an ecosystem-based approach; • Assess methods for acquiring relevant data to support decision-making in areas such as fisheries resource assessment and management, water quality monitoring, and evaluating the general health of the sea; • Evaluate and justify the use of data to substantiate theoretical concepts and/or draw scientific conclusions.
Any required material/software to take part to the course:	All software will be provided.
ECTS:	3 ECTS
Evaluation:	Multiple choice quiz after virtual part. Presentation after physical part.
Transcript of records	Upon successful completion, the students will receive an academic transcript with the BIP title, MQF Level, the number of ECTS credits and the mark/grade achieved. The credit will be awarded an ABCD grade.
Language of the course	English

Structure of the course

Dive into the data-driven ocean. This hands-on, SEA-EU ERASMUS+ BIP joint course shows you how raw observations and models become actionable insight for marine planning, policy, and innovation, from Blue Economy growth to Mission Ocean goals. You'll work with real met-ocean datasets (time series, grids, in-situ, remote sensing), learn best-practice data management and FAIR principles, and use professional tools to process, visualise, and analyse change in coastal and marine systems. By the end, you'll be able to source and integrate diverse data, design practical surveys, validate findings, and support evidence-based decisions for ICZM, fisheries, water quality, and beyond.

Virtual part:	2nd March to 2nd April 2026	4 hours every week.
Physical part:	3rd to 9th May 2026	4 hours on Sunday 3rd May 2026 8 hours daily on 4th to 8th May 2026 4 hours on Saturday 9th May 2026

Practical information

Accommodation recommendations	SEA-EU BIP Welcome to Malta, Info Pack
The physical mobility will take place at… (address of the course)	University of Malta, Valletta Campus, Valletta, Malta.
Any tips?	With regards to Erasmus Funding regulations, kindly seek advice from Home University. For information purposes only(!), students are advised that if they are selected and once they are nominated by their home University they will be contacted by the International Office of the UM with necessary instructions and will be required to provide the following documents by the 23rd January for the acceptance letter for the BIP to be issued by the UM : - Online Enrolment form (provide by the UM) - Health Form - European Health Insurance Card - Online Linguistic Support B2 or higher - Travel Insurance (for the physical dates in Malta) - Learning Agreement (see details below)
Information for the Online learning agreement for nominated / selected students	Receiving Inst: University of Malta Erasmus Code: MTMALTA01 Faculty of Science Country Malta BIP Code & Title: GSC5104 - Marine Data Literacy Credit Value: 3 ECTS Person in Charge of signing the Online Learning Agreement: Ms. Marvic Cuschieri marvic.cuschieri@um.edu.mt