

Annex 4. Learning Outcomes



The intended learning outcomes alignment with the Qualifications Framework in the European Higher Education Area (QF-EHEA¹)

The Joint Bachelor's Degree in Sustainable Blue Economy has been designed to align with the Qualifications Framework in the European Higher Education Area (QF-EHEA), ensuring that the programme meets the highest standards of quality, relevance, and academic rigour. Graduates will acquire a broad knowledge of marine biology, oceanography, environmental sciences, and sustainability practices. They will be able to solve complex environmental problems using analytical and strategic thinking, make informed judgements considering ethical, social, and environmental implications, and communicate complex ideas effectively to diverse audiences.

Additionally, the programme fosters advanced learning skills, enabling graduates to pursue further studies independently. This alignment with the QF-EHEA ensures that graduates possess advanced knowledge, practical expertise, and the ability to continue their professional development, thereby enhancing their mobility and employability across the European Higher Education Area and beyond.

First cycle qualification. Bachelor level.

Learning Outcomes (Los) corresponding to the Qualifications Framework for the European Higher Education Area (QF-EHEA) of the first cycle are:

QF-EHEA-1: have demonstrated **knowledge** and understanding in a **field of study** that builds upon their general secondary education, and is typically at a level that, whilst **supported by advanced textbooks**, includes some aspects that will be informed by knowledge of the forefront of their field of study;

QF-EHEA-2: can **apply their knowledge** and understanding in a manner that indicates a **professional approach to their work or vocation**, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study;

QF-EHEA-3: have the **ability to gather and interpret relevant data** (usually within their field of study) **to inform judgments** that include reflection on relevant social, scientific or ethical issues;

QF-EHEA-4: can **communicate information**, ideas, problems and solutions to both specialist and non-specialist audiences;

QF-EHEA-5: have developed those learning skills that are necessary for them to continue to **undertake further study with a high degree of autonomy**.

¹ Overarching Framework of Qualifications of the European Higher Education Area (revised 2018))
https://www.ehea.info/Upload/document/ministerial_declarations/EHEAParis2018_Communique_AppendixIII_952778.pdf

Programme Learning Outcomes (PLOs) - SeaBlueE

Learning outcomes (LO) "Learning outcomes" means statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence.

Knowledge: Understanding of theories, facts, principles, procedures in subject areas and/or occupations.

Skills: Ability to utilise knowledge to solve problems or tasks (cognitive, practical, creative and communication skills).

Autonomy and Responsibility: Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups.

The determination of learning outcomes is a task undertaken jointly by all partners when designing the final programme and covering all programme courses. However, upon completion of this programme, students should be able to:

PLO1. Have a general knowledge of the fundamental principles of marine sciences and the fundamental principles of sustainable blue economy.

PLO2. Identify and understand the interdependency of marine ecosystems, ocean industries, and societies that depend on them, with a wide socio-ecological perspective.

PLO3. Identify and interpret challenges that come with the increase in the economic value of the oceans and the increasing threats on the oceans.

PLO4. Describe alternative economic approaches in addition to traditional economic analysis.

PLO5. Identify the different economic actors and stakeholder groups in blue industries.

PLO6. To use marine environmental and socio-economic analysis tools, including data analysis.

PLO7. Manage multidisciplinary data with cutting- edge capabilities in the blue industries.

PLO8. Provide a knowledge framework to reconcile conflicting uses of the ocean and its resources and enable long- term sustainable growth.

PLO9. Analyse policies and mechanisms that facilitate sustainable use of the ocean and maximise benefits and value creation for current and future generations.

PLO10. Develop awareness of environmental and socio-economic problems related to blue economy based on ethical commitment and sustainability.

PLO11. To understand the impact of socio-economic activities linked to the marine environment with a focus on sustainability.

Code	Course
Y1	
SBE101	Marine Ecosystems & Biodiversity
SBE102	Ocean Functioning
SBE103	Applied Mathematics
SBE104	Foundations of Economics
SBE105	Introduction to Sustainable Blue Development
SBE106	Soft & Academic Skills
SBE107	Marine Natural Capital & Ecosystem Services
SBE108	Impact of Human Activities on the Ocean
SBE109	Blue Business Management
SBE110	Marine & Maritime Governance, Laws & Regulations
SBE111	Ecological Economics
SBE112	Statistics
Y2	
SBE201	Geographic Information Systems
SBE202	Digital Data Compilation, Analysis & Visualisation
SBE203	Sustainable Blue Entrepreneurship & Innovation
SBE204	Climate Change
SBE205	Circular Blue Economy
SBE206	Models for Environmental & Economic Systems
SBE207	Remote Sensing Data & Techniques
SBE208	Marine Spatial Planning (MSP) & Integrated Coastal Zone Management (ICZM)
SBE209	Introduction to Blue Industries
SBE210	Environmental Accounting
SBE211	Foundations of Finance
SBE212	Sustainability Reporting
Y3 – P1	
SBE311-P1	Landscape Planning & Management
SBE312-P1	Life Cycle Assessment
SBE313-P1	Environmental Monitoring
SBE314-P1	Ocean Ecology & Accounting
SBE315-P1	Aquaculture & Food Security
SBE316-P1	Sustainable & Climate Finance
SBE317-P1	Environmental & Urban Planning
SBE318-P1	Maritime Sustainable Supply Chains
SBE319-P1	Operation Planning & Management
Y3 – P2	
SBE321-P2	Protection of the Marine Environment
SBE322-P2	Ecological Assessment of Aquatic Environments
SBE323-P2	Sustainable Fisheries Management
SBE324-P2	Introduction to Marine Biotechnology
SBE325-P2	Leadership & Communication
SBE326-P2	Fish Biology
SBE327-P2	Integrated Aquaculture
SBE328-P2	Specialised Workshop at Sea & in the Coastal Zone
SBE329-P2	Mining & Renewable Energy

Code	Course
Y3 – P3	
SBE331-P3	Human Health & Physical Activity related to the Sea; Blue sports
SBE332-P3	Sustainable Coastal Tourism
SBE333-P3	Introduction to Marine Biotechnology
SBE334-P3	Sustainable Fisheries Management
SBE335-P3	Integrated Aquaculture
SBE336-P3	Marine Ecosystem Restoration
SBE337-P3	Geopolitics in the Arctic
SBE338-P3	Arctic leadership
SBE339-P3	Human Impact in the Arctic
Y3 – P4	
SBE341-P4	Sustainable Shipping & Ports
SBE342-P4	Sustainable Coastal Tourism
SBE343-P4	Urban Economics
SBE344-P4	Migrations & Coastal Populations
SBE345-P4	Introduction to Marine Biotechnology
SBE346-P4	Human Health & Physical Activity related to the Sea; Blue Sports
SBE347-P4	Socio-economic & Environmental Monitoring
SBE348-P4	Environmental Marketing & Social Awareness
SBE349-P4	Coastal Resource Strategic Management
Y3 – P5	
SBE351-P5	Policy, Legal & Regulatory Framework for Blue Management
SBE352-P5	Data Sources & Processing Tools for Blue Management
SBE353-P5	Socio-ecological Monitoring
SBE354-P5	Marine Ecosystem Accounting
SBE355-P5	Marine Ecosystem Conservation
SBE356-P5	Marine Ecosystem Restoration
SBE357-P5	Social Dimension in the Blue Management
SBE358-P5	Project Management
SBE359-P5	Innovation & Strategic Development in Blue Management
Y3 – P6	
SBE361-P6	Sustainable Blue Industries: Tourism & Seafood
SBE362-P6	Social Dimension of Blue Industries
SBE363-P6	Policy & Regulatory Framework in Blue Industries
SBE364-P6	Strategy Management
SBE365-P6	Life Cycle in Blue Industries
SBE366-P6	Integrated Aquaculture & Sustainable Fisheries
SBE367-P6	Marketing & Product Development in Blue Tourism
SBE368-P6	Seafood Processing & Product Development
SBE369-P6	Blue Industries Project Management

a.1. Matrix of alignment with the Qualifications Framework in the European Higher Education Area (QF-EHEA) and the Programme Learning Outcomes (PLOs).

PLOs	FQ-EHEA				
	QF-EHEA-1	QF-EHEA-2	QF-EHEA-3	QF-EHEA-4	QF-EHEA-5
PLO1. Have a general knowledge of the fundamental principles of marine sciences and the fundamental principles of sustainable blue economy .	*	*	*	*	*
PLO2. Identify and understand the interdependency of marine ecosystems , ocean industries, and societies that depend on them, with a wide socio- ecological perspective.	*				
PLO3. Identify and interpret challenges that come with the increase in the economic value of the oceans and the increasing threats on the oceans.	*		*		
PLO4. Describe alternative economic approaches in addition to traditional economic analysis.		*	*	*	
PLO5. Identify the different economic actors and stakeholder groups in blue industries.		*	*		*
PLO6. To use marine environmental and socio-economic analysis tools, including data analysis.	*	*	*		
PLO7. Manage multidisciplinary data with cutting- edge capabilities in the blue industries.	*	*	*		
PLO8. Provide a knowledge framework to reconcile conflicting uses of the ocean and its resources and enable long- term sustainable growth.		*		*	
PLO9. Analyse policies and mechanisms that facilitate sustainable use of the ocean and maximise benefits and value creation for current and future generations.			*		*
PLO10. Develop awareness of environmental and socio-economic problems related to blue economy based on ethical commitment and sustainability.	*		*		*
PLO11. To understand the impact of socio-economic activities linked to the marine environment with a focus on sustainability .		*	*	*	

a.2. First Academic Year/ Core Module. Matrix of alignment with the Programme Learning Outcomes (PLOs) mapped with Course Learning Outcomes (CLOs), and FQ-EHEA.

PLOs	CLOs												FQ-EHEA				
	SBE101	SBE102	SBE103	SBE104	SBE105	SBE106	SBE107	SBE108	SBE109	SBE110	SBE111	SBE112	QF-EHEA-1	QF-EHEA-2	QF-EHEA-3	QF-EHEA-4	QF-EHEA-5
PLO1	*	*			*	QF-EHEA-4			*	*	*		*	*	*	*	*
PLO2		*		*	*			*		*			*				
PLO3				*	*						*		*		*		
PLO4				*	*				*		*			*	*	*	
PLO5	*	*	*		*	QF-EHEA-5	*	*				*		*	*		*
PLO6		*	*		*			*					*	*	*		
PLO7	*			*	*			*		*	*		*	*	*		
PLO8		*	*	*					*	*	*			*		*	
PLO9	*	*		*			*	*		*	*				*		*
PLO10	*	*		*			*						*		*		*
PLO11								*	*		*			*	*	*	

a.3. Second Academic Year/ Toolbox Module. Matrix of alignment with the Programme Learning Outcomes (PLOs) mapped with Course Learning Outcomes (CLOs), and FQ-EHEA.

PLOs	CLOs												FQ-EHEA				
	SBE201	SBE202	SBE203	SBE204	SBE205	SBE206	SBE207	SBE208	SBE209	SBE210	SBE211	SBE212	QF-EHEA-1	QF-EHEA-2	QF-EHEA-3	QF-EHEA-4	QF-EHEA-5
PLO1	*	*						*	*				*	*	*	*	*
PLO2	*	*		*	*	*		*		*			*				
PLO3		*		*	*	*		*	*	*	*		*		*		
PLO4		*	*		*			*	*		*	*		*	*	*	
PLO5			*					*	*		*	*		*	*		*
PLO6	*			*		*	*	*				*	*	*	*		
PLO7	*		*			*	*	*				*	*	*	*		
PLO8	*			*	*			*	*	*		*		*		*	
PLO9	*		*		*	*		*	*			*			*		*
PLO10	*			*	*			*	*	*	*	*	*		*		*
PLO11	*		*	*	*			*	*	*	*	*		*	*	*	

α.4. Third Academic Year/ Expertise Module. Optional Pathway 1. Matrix of alignment with the Programme Learning Outcomes (PLOs) mapped with Course Learning Outcomes (CLOs), and FQ-EHEA.

PLOs	Optional Pathway-1 LOs									FQ-EHEA				
	SBE311-P1	SBE312-P1	SBE313-P1	SBE314-P1	SBE315-P1	SBE316-P1	SBE317-P1	SBE318-P1	SBE319-P1	QF-EHEA-1	QF-EHEA-2	QF-EHEA-3	QF-EHEA-4	QF-EHEA-5
PLO1		*	*			*	*	*		*	*	*	*	*
PLO2		*	*	*				*		*				
PLO3				*		*				*		*		
PLO4					*	*			*		*	*	*	
PLO5	*				*		*	*			*	*		*
PLO6	*		*	*						*	*	*		
PLO7	*	*	*		*		*	*		*	*	*		
PLO8	*			*	*	*		*	*		*		*	
PLO9		*	*		*	*		*	*			*		*
PLO10			*	*	*		*			*		*		*
PLO11	*	*		*	*		*		*		*	*	*	

a.5. Third Academic Year/ Expertise Module. Optional Pathway 2. Matrix of alignment with the Programme Learning Outcomes (PLOs) mapped with Course Learning Outcomes (CLOs), and FQ-EHEA.

PLOs	Optional Pathway-2 LOs									FQ-EHEA				
	SBE321-P2	SBE322-P2	SBE323-P2	SBE324-P2	SBE325-P2	SBE326-P2	SBE327-P2	SBE328-P2	SBE329-P2	QF-EHEA-1	QF-EHEA-2	QF-EHEA-3	QF-EHEA-4	QF-EHEA-5
PLO1	*	*	*			*	*			*	*	*	*	*
PLO2	*	*	*	*			*		*	*				
PLO3				*					*	*		*		
PLO4	*		*		*						*	*	*	
PLO5		*	*	*	*	*		*			*	*		*
PLO6		*	*					*		*	*	*		
PLO7			*	*			*			*	*	*		
PLO8	*		*	*					*		*		*	
PLO9			*	*								*		*
PLO10			*	*		*	*	*	*	*		*		*
PLO11	*		*	*	*						*	*	*	

a.6. Third Academic Year/ Expertise Module. Optional Pathway 3. Matrix of alignment with the Programme Learning Outcomes (PLOs) mapped with Course Learning Outcomes (CLOs), and FQ-EHEA.

PLOs	Optional Pathway-3 LOs									FQ-EHEA				
	SBE331-P3	SBE332-P3	SBE333-P3	SBE334-P3	SBE335-P3	SBE336-P3	SBE337-P3	SBE338-P3	SBE339-P3	QF-EHEA-1	QF-EHEA-2	QF-EHEA-3	QF-EHEA-4	QF-EHEA-5
PLO1		*		*	*					*	*	*	*	*
PLO2		*	*	*	*	*			*	*				
PLO3		*	*			*	*			*		*		
PLO4		*		*							*	*	*	
PLO5		*	*	*			*	*			*	*		*
PLO6		*		*						*	*	*		
PLO7		*	*	*	*					*	*	*		
PLO8	*	*	*	*		*	*				*		*	
PLO9	*	*	*	*		*	*	*				*		*
PLO10	*	*	*	*	*	*	*		*	*		*		*
PLO11	*	*	*	*							*	*	*	

a.7. Third Academic Year/ Expertise Module. Optional Pathway 4. Matrix of alignment with the Programme Learning Outcomes (PLOs) mapped with Course Learning Outcomes (CLOs), and FQ-EHEA.

PLOs	Optional Pathway-4 LOs									FQ-EHEA				
	SBE341-P4	SBE342-P4	SBE343-P4	SBE344-P4	SBE345-P4	SBE346-P4	SBE347-P4	SBE348-P4	SBE349-P4	QF-EHEA-1	QF-EHEA-2	QF-EHEA-3	QF-EHEA-4	QF-EHEA-5
PLO1		*	*	*				*	*	*	*	*	*	*
PLO2	*	*	*	*	*		*	*	*	*				
PLO3		*	*	*	*			*	*	*		*		
PLO4		*	*	*				*			*	*	*	
PLO5	*	*	*	*	*			*			*	*		*
PLO6	*	*	*	*			*	*		*	*	*		
PLO7		*	*	*	*		*	*		*	*	*		
PLO8		*	*	*	*	*		*	*		*		*	
PLO9	*	*	*	*	*	*		*	*			*		*
PLO10	*	*	*	*	*	*	*	*	*	*		*		*
PLO11	*	*	*	*	*	*		*	*		*	*	*	

a.8. Third Academic Year/ Expertise Module. Optional Pathway 5. Matrix of alignment with the Programme Learning Outcomes (PLOs) mapped with Course Learning Outcomes (CLOs), and FQ-EHEA.

PLOs	Optional Pathway-5 LOs									FQ-EHEA				
	SBE351-P5	SBE352-P5	SBE353-P5	SBE354-P5	SBE355-P5	SBE356-P5	SBE357-P5	SBE358-P5	SBE359-P5	QF-EHEA-1	QF-EHEA-2	QF-EHEA-3	QF-EHEA-4	QF-EHEA-5
PLO1			*							*	*	*	*	*
PLO2	*		*	*		*	*			*				
PLO3	*		*	*	*	*	*		*	*		*		
PLO4							*	*	*		*	*	*	
PLO5							*	*	*		*	*		*
PLO6		*	*		*		*	*		*	*	*		
PLO7		*						*	*	*	*	*		
PLO8	*			*	*	*	*		*		*		*	
PLO9	*			*	*	*	*		*			*		*
PLO10			*	*		*	*			*		*		*
PLO11	*		*	*	*		*	*			*	*	*	

a.9. Third Academic Year/ Expertise Module. Optional Pathway 6. Matrix of alignment with the Programme Learning Outcomes (PLOs) mapped with Course Learning Outcomes (CLOs), and FQ-EHEA.

PLOs	Optional Pathway-6 LOs									FQ-EHEA				
	SBE361-P6	SBE362-P6	SBE363-P6	SBE364-P6	SBE365-P6	SBE366-P6	SBE367-P6	SBE368-P6	SBE369-P6	QF-EHEA-1	QF-EHEA-2	QF-EHEA-3	QF-EHEA-4	QF-EHEA-5
PLO1								*		*	*	*	*	*
PLO2	*	*	*					*		*				
PLO3	*	*	*		*	*		*		*		*		
PLO4	*			*	*	*		*	*		*	*	*	
PLO5	*						*				*	*		*
PLO6					*				*	*	*	*		
PLO7				*		*			*	*	*	*		
PLO8	*		*		*	*					*		*	
PLO9	*		*		*	*	*	*				*		*
PLO10		*		*	*	*	*	*		*		*		*
PLO11	*	*	*	*	*	*		*	*		*	*	*	