

# ERASMUS MUNDUS JOINT MASTER DEGREE IN WATER AND COASTAL MANAGEMENT, WACOMA

1ST YEAR = 60 ECTS + WACOMA SCHOOL 6 ECTS = TOTAL OF 66 ECTS

## 1st SEMESTER - CORE MODULES (30 ECTS) University of Bologna (Campus of Ravenna) ITALY Aug 2018 - Jan 2019

Hydrocomplexity of the Coastal Zone	6 ECTS		Integrated Coastal Zone Management	6 ECTS	
Physiology applied to the Environment: pollutant impacts on human health and ecosystem	6 ECTS	Environmental Economics and Risk Management in Coastal Policy	6 ECTS	Advanced technologies and Decision Support Systems in water and coastal Risk Management	6 ECTS

## WACOMA SCHOOL: HOT TOPICS IN INTEGRATED COASTAL RISK MANAGEMENT (6 ECTS) University of Algarve (Faro) PORTUGAL February 2019

## 2nd SEMESTER - OPTIONAL MODULES (30 ECTS) University of Cadiz (Campus of Puerto Real) SPAIN Feb - Jul 2019

<b>MANDATORY BLOCKS (2 ECTS MODULES)</b> Student select 6 ECTS from each of 3 different blocks (= 18 ECTS) University of Cadiz (Cadiz) SPAIN - Feb - July 2019	<b>INTEGRATIVE BLOCKS (2 ECTS MODULES)</b> Student select 6 ECTS from 2 different blocks (= 12 ECTS) University of Cadiz (Cadiz) SPAIN - Feb - July 2019
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BLOCK 1: Chemical Analysis of Water Quality, CHIM 01 (3 modules = 6 ECTS)		ECTS
1	Weight of evidence: Assessment of chemical contamination in aquatic environments	2
2	Chemical and ecotoxicological guidelines for management of dredged materials in open waters	2
3	Sensitive tools for the assessment of environmental and human risk	2
4	Environmental assessment and management of accidental spill in littoral ecosystems	2
5	Tools for hazard assessment of chemical and complex environmental media	2
		TOT 10 ECTS

BLOCK 4: Environmental Legislation, IUS10 (3 modules = 6 ECTS)		ECTS
1	Marine Strategy Directive Framework	2
2	Conflict resolution	2
3	Communication Science	2
4	Beach nourishment as a management tool	2
5	Integrative Management of wetlands and harbours	2
6	Coastal Cities planning guidelines	2
7	The Water Framework Directive	2
8	Sustainable development UN: Goal 6 and Goal 14	2
9	Conventions (RAMSAR, Regional Seas, OSPAR, HELQOM, UNEP)	2
		TOT 18 ECTS

<b>BLOCK 2: Ecotoxicological evaluation of Risk in Water and Coastal Management, BIO07 (3 modules = 6 ECTS)</b>			<b>ECTS</b>
1	Ecotoxicity tests in Risk Assessment		2
2	Bioavailability and bioaccumulation: Keys for the quality of ecosystems		2
3	Integrated tools to determine environmental quality		2
4	Integrative assessment of sediment quality in aquatic ecosystems		2
5	General methodology to assess quality of coastal ecosystems		2
			<b>TOT 10 ECTS</b>

<b>BLOCK 5: Biology of aquatic organisms, BIO01 (3 modules = 6 ECTS)</b>			<b>ECTS</b>
1	Microbial potential for the attenuation of contaminants in coastal ecosystems		2
2	Alien species		2
3	Biological tools for coastal management		2
4	Remote sensing: algal blooms		2
5	Integrated water resources and natural areas management in the coastal zone		2
			<b>TOT 10 ECTS</b>

<b>BLOCK 3: Geochemistry, GEO08 (3 modules = 6 ECTS)</b>			<b>ECTS</b>
1	Basis for sediments and dredged material management		2
2	Coastal land subsistence effects on freshwater resources and flood risk		2
3	Coastal flooding hazard		2
4	Hydrometeorological hazard and risk at the coastal zones		2
5	Land reclamation and drainage effect and feedback with water freshening and salinization		2
6	Quarrying and mining activities impacts on water quality		2
			<b>TOT 12 ECTS</b>

<b>BLOCK 6: Environmental Impact and Management, FIS07 (3 modules = 6 ECTS)</b>			<b>ECTS</b>
1	Modeling physical-biological processes		2
2	Climate change and extreme events effect on flood hazard		2
3	Techniques for the diagnosis on ICZM process		2
4	Salt marshes for flood risk management strategies		2
5	Complex satellite monitoring of coastal zones		2
6	Coastal and marine areas: managing complex systems		2
7	Natural Hazard (SENDAI)		2
8	Remote sensing: management applications		2
			<b>TOT 16 ECTS</b>

## ERASMUS MUNDUS JOINT MASTER DEGREE IN WATER AND COASTAL MANAGEMENT, WACOMA

2nd YEAR = 54 ECTS AT THE SELECTED UNIVERSITY (UNIBO, or UALG or UCA)

**INTERNSHIP (8 ECTS)** at Company/Institution under agreement with the Tutor at the selected University

**MASTER THESIS (MINIMUM OF 34 ECTS)**. Work at the selected University, allowed max 3 months of stay at an Associated Partner

**COMPLEMENT TO 54 ECTS, if required in the student's plan (MAX 12 ECTS in Language and scientific skills)**

1	Environmental English	4
2	Proposal writing	2
3	Scientific paper writing	2
4	Literature review	2
5	Data Bank searching	2
6	Further language skills	2
7	Data management and interpretation	2
8	Geomatics and GIS	2
9	Fieldwork skills	2
10	Scientific Diving	2

**WACOMA SUMMARY - 120 ECTS****FIRST YEAR 66 ECTS (Core modules at UNIBO, W School at UALG, Optional blocks at UCA)**

CORE MODULES AT UNIBO	30 ECTS
WINTER SCHOOL AT UALG	6 ECTS
OPTIONAL BLOKS AT UCA	30 ECTS

**SECOND YEAR 54 ECTS**

INTERNSHIP	8 ECTS
RESEARCH PERIOD	34 ECTS (min)
LANGUAGE AND SCIENTIFIC SKILLS	12 ECTS (max)