

ERASMUS MUNDUS JOINT MASTER DEGREE IN WATER AND COASTAL MANAGEMENT - WACOMA

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

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

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 WINTER SCHOOL: HOT TOPICS IN INTEGRATED COASTAL RISK MANAGEMENT (6 ECTS) University of Algarve - February

2nd SEMESTER - MANDATORY BLOCKS (2 ECTS MODULES) Students select 6 ECTS from each of 3 different blocks (= 18 ECTS) University of Cadiz (Feb – July)

2nd SEMESTER - INTEGRATIVE BLOCKS (2 ECTS MODULES) Students select 6 ECTS from 2 different blocks (= 12 ECTS) University of Cadiz (Feb – July)

BLOCK 1: Chemical Analysis of Water Quality (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

BLOCK 2: Ecotoxicological evaluation of Risk in Water and Coastal Management (3 modules = 6 ECTS)		ECTS
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
TOT		10

BLOCK 3: Geochemistry (3 modules = 6 ECTS)		ECTS
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	Hydrometereological 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
TOT		12

BLOCK 4: Environmental Legislation (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		14

BLOCK 5: Biology of aquatic organisms (3 modules = 6 ECTS)		ECTS
1	Microbial potential for the attenuation of contaminants in coastal ecosystems and bioremediation	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
TOT		10

BLOCK 6: Environmental Impact and Management (3 modules = 6 ECTS)		ECTS
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
TOT		16

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)		ECTS
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 – 2 years master degree - 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, language and Scientific skills, Research for the Master thesis):
INTERNSHIP	8 ECTS
LANGUAGE AND SCIENTIFIC SKILLS	12 ECTS (max)
RESEARCH PERIOD	34 ECTS (min)