

**Cycle view of the study programme**

		B1	Or	Th	Pr	Au	Cr
<b>Compulsory course (B1 : 6Cr)</b>							
OCEA0057-7	<i>Marine Ecology</i> (english language) - <i>Marine ecology</i> - Sylvie GOBERT, Mathieu POULICEK - [6d FW] - <i>Introduction to marine ecosystems modelling</i> - Marilaure GRÉGOIRE	B1	Q1				<b>6</b>
			15	-	[+]		
			15	15	-		
<b>Optional courses (B2 : 24Cr)</b>							
Courses totaling 24 credits have to be chosen among : (B1 : 24Cr)							
<b>Framework : global environment</b>							
OCEA0055-5	<i>Biogeochemical Cycles in the Ocean</i> (english language) - <i>Biogeochemistry 1</i> - Bruno DELILLE, Anne MOUCHET - <i>Biogeochemistry 2</i>	B1	Q1				<b>6</b>
			20	-	-		
			20	-	-		
OCEA0056-1	<i>Marine Plant Biology and Ecology</i> (english language) - <i>Marine phanerogames ecology</i> - Sylvie GOBERT - <i>Techniques of sampling in marine ecology</i> - Sylvie GOBERT	B1	Q1				<b>6</b>
			15	10	-		
			15	10	-		
OCEA0082-1	<i>Carbon, nutrient, greenhouse gases dynamics in marine ecosystems and geological oceanography</i> (english language) - <i>Carbon, nutrient, greenhouse gases dynamics in marine ecosystems</i> - Alberto BORGES - <i>Geological oceanography</i> - Nathalie FAGEL - [1d FW]	B1	Q1				<b>6</b>
			20	5	-		
			20	20	[+]		
OCEA0056-1	<i>Marine Plant Biology and Ecology</i> (english language) - <i>Marine phanerogames ecology</i> - Sylvie GOBERT - <i>Techniques of sampling in marine ecology</i> - Sylvie GOBERT	B1	Q1				<b>6</b>
			15	10	-		
			15	10	-		
<b>Scientific challenges &amp; opportunities : marine environment protection &amp; resources protection</b>							
OCEA0060-1	<i>Advanced Marine Zoology</i> (english language) - <i>Biology of benthos and necton animals : invertebrates</i> - Patrick DAUBY, Mathieu POULICEK - <i>Ecoethology of the marine animals</i> - Christian MICHEL - <i>Ecology of the coral reefs</i> - Mathieu POULICEK	B1	Q1				<b>6</b>
			15	15	-		
			30	-	-		
			30	-	-		
OCEA0080-1	<i>Biochemistry, Physiology and Aquariology</i> (english language) - <i>Physiology and biochemistry of the marine animals</i> - Philippe COMPÈRE - <i>Aquariology</i> - Christian MICHEL	B1	Q1				<b>6</b>
			15	15	-		
			15	-	-		
OCEA0062-1	<i>Ecotoxicology and Biodegradation of Marine Pollutants</i> (english language) - <i>Biodegradation of organic molecules in a sea environment</i> - Mathieu POULICEK - <i>Marine ecotoxicology</i> - Krishna DAS	B1	Q1				<b>6</b>
			20	-	-		
			15	15	-		
OCEA0063-1	<i>Biology of Marine Mammals</i> (english language) - <i>Part I : Ecology and Ecotoxicology</i> - Krishna DAS - <i>Part II : pathology and necropsies</i> - Thierry JAUNIAUX	B1	Q1				<b>6</b>
			15	-	-		
			15	10	-		
OCEA0064-1	<i>Functional and Molecular Marine Microbiology</i> (english language) - <i>Marine bacteriology</i> - Mathieu POULICEK - <i>Molecular approaches to the diversity of marine microorganisms</i> - Annick WILMOTTE	B1	Q1				<b>6</b>
			15	30	-		
			15	15	-		
<b>Data analysis : interpretation of environmental data</b>							
OCEA0081-1	<i>Numerical Methods in Geophysics - Part 2</i> - JeanMarie BECKERS	B1	Q1	15	30	-	<b>6</b>