

**Cycle view of the study programme**

B1 Or Th Pr Au Cr

**Compulsory course (B1 : 30Cr)**

SHUL0069-1 *Master thesis - COLLÉGIALITÉ* B1 TA - - - **30**

**Focus courses (B1 : 30Cr)**

**Single Focus (B1 : 30Cr)**

**Research Focus (B1 : 30Cr)**

OCEA0057-7 *Marine Ecology (english language)* B1 Q1 **6**  
 - *Marine ecology* - Sylvie GOBERT, Mathieu POULICEK - [6d FW] 15 - [+]  
 - *Introduction to marine ecosystems modelling* - 15 15 -  
 Marilaure GRÉGOIRE

Courses totaling 24 credits have to be chosen among : (B1 : 24Cr)

**Framework : global environment**

OCEA0055-5 *Biogeochemical Cycles in the Ocean (english language)* B1 Q1 **6**  
 - *Biogeochemistry 1* - Bruno DELILLE, Anne MOUCHET 20 - -  
 - *Biogeochemistry 2* - Bruno DELILLE, Anne MOUCHET 20 - -

OCEA0056-1 *Marine Plant Biology and Ecology (english language)* B1 Q1 **6**  
 - *Marine phanerogames ecology* - Sylvie GOBERT 15 10 -  
 - *Techniques of sampling in marine ecology* - Sylvie GOBERT 15 10 -

OCEA0082-1 *Carbon, nutrient, greenhouse gases dynamics in marine ecosystems and geological oceanography (english language)* B1 Q1 **6**  
 - *Carbon, nutrient, greenhouse gases dynamics in marine ecosystems* - Alberto BORGES 20 5 -  
 - *Geological oceanography* - Nathalie FAGEL - [1d FW] 20 20 [+]

OCEA0059-1 *Remote Sensing of the Oceans (english language)* B1 Q1 **6**  
 - *Introduction to satellite oceanography* - Yves CORNET 15 15 -  
 - *Advanced satellite oceanography* - Yves CORNET 15 15 -

**Scientific challenges & opportunities : marine environment protection & resources protection**

OCEA0060-1 *Advanced Marine Zoology (english language)* B1 Q1 **6**  
 - *Biology of benthos and necton animals : invertebrates* - Patrick DAUBY, Mathieu POULICEK 15 15 -  
 - *Ecoethology of the marine animals* - Christian MICHEL 30 - -  
 - *Ecology of the coral reefs* - Mathieu POULICEK 30 - -

OCEA0080-1 *Biochemistry, Physiology and Aquariology (english language)* B1 Q1 **6**  
 - *Physiology and biochemistry of the marine animals* - Philippe COMPÈRE 15 15 -  
 - *Aquariology* - Christian MICHEL 15 - -

OCEA0062-1 *Ecotoxicology and Biodegradation of Marine Pollutants (english language)* B1 Q1 **6**  
 - *Biodegradation of organic molecules in a sea environment* - Mathieu POULICEK 20 - -  
 - *Marine ecotoxicology* - Krishna DAS 15 15 -

OCEA0063-1 *Biology of Marine Mammals (english language)* B1 Q1 **6**  
 - *Part I : Ecology and Ecotoxicology* - Krishna DAS 15 - -  
 - *Part II : pathology and necropsies* - Thierry JAUNIAUX 15 10 -

OCEA0064-1 *Functional and Molecular Marine Microbiology (english language)* B1 Q1 **6**  
 - *Marine bacteriology* - Mathieu POULICEK 15 30 -  
 - *Molecular approaches to the diversity of marine microorganisms* - Annick WILMOTTE 15 15 -

**Data analysis : interpretation of environmental data**

OCEA0081-1 *Numerical Methods in Geophysics - Part 2 (english language)* - B1 Q1 15 30 - 6  
JeanMarie BECKERS