

**Vue cycle du programme des cours**

B1 Or Th Pr Au Cr

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

STFE9002-1 *Master thesis* - COLLÉGIALITÉ B1 TA - - - 30

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

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

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

OCEA0057-7 *Marine Ecology* (anglais) B1 TA 6  
 - *Marine ecology* - Krishna DAS, Sylvie GOBERT - [5h TD] 10 - [+]  
 - *Introduction to marine ecosystems modelling* - 15 15 -  
 Marilaure GRÉGOIRE  
 - *Marine ecology fieldtrip* - Krishna DAS, Sylvie GOBERT - [6] T. - - [+]  
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Courses totaling 24 credits have to be chosen among : (B1 : 24Cr)

**Framework : global ocean environment**

OCEA0055-5 *Biogeochemical Cycles in the Ocean* (anglais) B1 Q1 6  
 - *Biogeochemistry 1* - Odile CRABECK, Bruno DELILLE 20 - -  
 - *Biogeochemistry 2 (Advanced Marine Geochemistry)* - 20 - -  
 Odile CRABECK, Bruno DELILLE

OCEA0056-1 *Marine Plant Biology and Ecology* (anglais) 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* (anglais) B1 Q1 6  
 - *Carbon, nutrient, greenhouse gases dynamics in marine ecosystems* - Alberto BORGES 20 5 -  
 - *Marine sediment geochemistry* - Nathalie FAGEL 15 15 -

OCEA0059-1 *Remote Sensing of the Oceans* (anglais) B1 Q1 6  
 - *Introduction to satellite oceanography* - 15 15 -  
 Aida ALVERA AZCARATE  
 - *Advanced satellite oceanography* - Aida ALVERA AZCARATE 15 15 -

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

OCEA0225-1 *Professional practice in marine / environmental sectors* (anglais) - Sylvie GOBERT, Michel MARENGO B1 Q2 - - - 6

OCEA0080-1 *Biochemistry, Physiology and Aquariology* (anglais) B1 Q1 6  
 - *Physiology and biochemistry of the marine animals* - 15 15 -  
 Philippe COMPÈRE  
 - *Aquariology* - Marie BOURNONVILLE 15 - -

OCEA0062-6 *Ecotoxicology and Biodegradation of Marine Pollutants, Marine ecotoxicology* (anglais) - Krishna DAS - [15h TD] B1 Q1 15 - [+]  
 6

OCEA0063-1 *Biology of Marine Mammals* (anglais) 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, Molecular approaches to the diversity of marine microorganisms* (anglais) B1 Q1 25 25 - 6  
 - Annick WILMOTTE

**Data analysis : interpretation of environmental data**

OCEA0081-1 *Numerical methods in geophysics - Part 2* (anglais) - B1 Q1 15 30 - 6  
 JeanMarie BECKERS