CHEMICAL REACTIVITY IN THE OCEAN

Credits: 5,0 ECTS

Brief description of contents:

- Approximations used in biogeochemical models. Definition of environmental compartments and their main fluxes
- Models and parameters used to characterize the gas exchange through the water-atmosphere interface
- Reactivity of the elements in surface waters, transport of particulate matter and segregation in the deep ocean
- Vertical transport of organic matter and remineralisation. Importance of C, O, N and P cycles
- Sedimentation cycles in the ocean. Formation, dissolution, and preservation of calcium carbonate and opal
- Reactivity and biogeochemical cycles of metals in the ocean. Processes related to complexation and chemical speciation under the influence of future changes
- Estimation of gas fluxes between the atmosphere and the ocean from databases (practical classes)
- Study of the chemical speciation of elements from experimental measurements (practical classes)
- Case study: biogeochemical coupling in the North Atlantic (practical classes)

Evaluation system:

SYSTEM	WEIGHT
Written or oral exams	40 – 60
Carrying out of a science communication	10 – 30
Oral presentation of a communication	10 – 30
Attitude during classes	5 – 15