



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Technologies for the analysis of contamination in the marine environment

2223-128R-08

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#### Title

Technologies for the analysis of contamination in the marine environment

#### Teacher(s)

Francesco Saliu

#### Language

English

#### Short description

The 1982 UN Convention on the Law of the Sea define Marine pollution as: "the introduction by man, directly or indirectly, of substances or energy into the marine environment ... which results or is likely to result in such deleterious effects as harm to living resources and marine life. Since marine pollution can change the physical, chemical, and biological state of our oceans, it is a severe threat to marine wildlife and ecosystems, and the industries and livelihoods dependent on them, such as fisheries and tourism. Moreover, toxic chemicals that become concentrated in the food chain may impact human health. The UN's Sustainable Development Goal target

14.1 indicates: "By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution. The course presents the state of the art regarding the available technologies for the determination of the contamination of the marine environment and the definition of marine pollution. Specifically the basis of the environmental analysis from sampling to sample preparation and detection, the application of non-destructive techniques such as UV-VIS, IR, XRF and Raman spectroscopy, advanced techniques such as LC-MS and GC-MS, and recent advances for underwater chemical analysis. The course includes also laboratory experience with infrared spectroscopy and mass spectrometry

## **CFU / Hours**

1CFU/8 hours

## **Teaching period**

June 2023

## **Sustainable Development Goals**

CLEAN WATER AND SANITATION | CLIMATE ACTION | LIFE BELOW WATER

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