

HBB380 - Geology & Geophysics

Présentation

Objectifs pédagogiques

Module Outline:

GEOLOGY & GEOPHYSICS

- Earth structure and dynamics
- Fundamental and applied magnetism
- Earth's gravity field and applications
- Principles of seismic exploration
- Plate tectonics and ocean margins
- Oceanic sedimentation processes
- Seabed sampling techniques
- Oceanographic measurement
- Oceanographic instruments

Compétences

Learning Outcomes:

The aim of the course is to convey to those students with the geological processes giving shape to oceanic basins, and in the active geological, geophysical and sedimentological processes in oceanic domains. As such the course aids in preparing the students for a multidisciplinary and polyvalent formation as hydrographer.

Identification, use, application, correspondence, interaction and problem solving of the earth's geology and environmental science

Programme

Contenu

Lecture 1 Marine geology

Introduction to geology.

Explanation of the structure of the earth's crust.

Movement of the earth plates with the formation of deep sea trenches.

Explanation of the formation of coastlines.

Formation of rocks and other underwater structures.

Lecture 2 Earth's magnetic field

Details about the magnetic field of the earth. Movement of the earth poles and explanation about the necessary instruments and ways to observe the earth's magnetic field.

Lecture 3 Earth's internal structure

Details of the internal structure of the earth and the influence of this structure to the crust layers.

Lecture 4 Seismic profiling

Mis à jour le 02-04-2021



Code : HBB380

Unité d'enseignement de type mixte

3 crédits

Volume horaire de référence (+/- 10%) : **30 heures**

Responsabilité nationale :

EPN08 - Institut national des sciences et techniques de la mer (INTECHMER) / Claire MARION

Describe different ways for seismic profiling and the use of different instruments.

Lecture 5 Geotechnical sampling

Knowledge about the different ways to sample the sea bottom.

Description of the different sample instruments.

Lecture 6 Deposition and erosion

Formation of the different kinds of sea beds.

Different types of granulates on the seafloor and study of the structure.

Lecture 7 Environnemental impact

The impact of different surveys on the environment.

The protection of marine mammals and the maritime heritage during surveys.

Modalités de validation

- Contrôle continu
- Examen final