



UNIVERSITÀ DEGLI STUDI DI TORINO

ID

VP141_DIP_TER

Visiting Professor Program Academic year 2022/2023

TEACHING COMMITMENT: 20 hours

COURSE TITLE

Tectonics and Regional Geology

TEACHING PERIOD

2nd term

SCIENTIFIC AREA

Structural Geology and Tectonics

LANGUAGE USED TO TEACH

English

COURSE SUMMARY

- Internal Structure of the Earth on the seismic-compositional and rheological-mechanical basis;
- Main features of the crust, mantle and core;
- Birth of the theory of Plate Tectonics and related evidences;
- Global tectonics and plate margins;
- Divergent margins, rifting, passive margins and mid-oceanic ridges;
- Convergent margins, subduction, obduction and continental collisions;
- Transform margins and wrench Tectonics;
- Regional geology and tectonics of the peri-Mediterranean area;
- Architecture, structure and tectonic-metamorphic evolution of the Alpine belt, with particular focus on the W Alps;
- General architecture and tectonics of the Apennine belt;
- General overview on the Variscan Tectonics in the Southern Europe realm.

LEARNING OBJECTIVES

The course aims at describing the general Plate Tectonics framework , the related principles, paradigms and mechanisms and its application to the peri-Mediterranean region, with particular focus on the Italian case. The course provides detailed knowledge of the tectonics occurring at divergent, convergent and transform plate boundaries. The description of the main sedimentary, tectono-metamorphic and magmatic processes occurring in the different tectonic setting, from rifting to continental collision, is provided. General knowledge of the regional geology and tectonics around the Mediterranean area is provided, also with the aid of regional geological maps. Particular attention is paid on the description of the architecture and tectono-metamorphic evolution of the Alpine-Appennine orogenic belts. The knowledge acquired in this course will provide a foundation for working on various geological problems, including seismic and volcanic hazard, tectonic control on geo-resource formation.

TUTORSHIP ACTIVITIES

N/A

LAB ACTIVITIES

N/A

OTHER ACTIVITIES BESIDES THE COURSE

Two seminars (1 h each) for PhD students and research fellows on the recent advances of the peri-Mediterranean area tectonics.

VISITING PROFESSOR PROFILE

Expert in Structural Geology and Tectonics. Competences on the tectonics, as well as, on the regional geology of the peri-Mediterranean area, with a particular focus on the Alpine-Appennine belts. The Visiting Professor should also possess a solid experience in multi-disciplinary approach to solve tectonic problems. It will be greatly appreciated that the Visiting Professor adds his/her expertise in the reconstruction of the geological and tectono-metamorphic evolution of portions of Alpine-Appennine belts.

CONTACT PERSON AT THE DEPARTMENT

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