UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Optical spectroscopy across different disciplines: from biology to geology and materials

2627-102R-16

Title

Optical spectroscopy across different disciplines: from biology to geology and materials

Teacher

Prof. Adele Sassella

Language

English

Short description

Optical spectroscopy is the study of the interaction between electromagnetic radiation and matter. Historically, optical spectroscopy referred to the use of visible light used for any measurement of a quantity related to the optical properties of the matter, which express the light-matter interaction. Later the concept was expanded greatly to comprise e.m. radiation from the UV to the IR ranges.
Here, the aim is showing how optical spectroscopy can find useful application in different scientific areas, from physics, chemistry and materials science, to biology, geology, and medicine; therefore, after introducing the basic

physics of light-matter interaction, the principles of the most common spectroscopy techniques are illustrated with examples from different areas.

Target audience

PhD students from any scientific background, interested in understanding how optical spectroscopy techniques are commonly applied to many different scientific fields.

Maximum number of participans

Min 4 Max 20

Assessment method

A written test consisting of one open question.

CFU / Hours

1 cfu / 8 hrs

Teaching period and mode

December, synchronous online lectures. The dates will be agreed with the teacher

course registration on "Segreterie online": from 15/11/2026 to 30/11/2026

Sustainable Development Goals

QUALITY EDUCATION | AFFORDABLE AND CLEAN ENERGY