



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Radiation Matter Interaction

1819-1-F5302Q007

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#### Aims

Aim of the course is to give the basis of the mechanisms of energy transfer from ionizing radiation to materials and to introduce some applications based on the interaction of ionizing radiation with materials

#### Contents

Radioactivity. Sources of ionizing radiation. Energy transfer from radiation to materials. Application of experimental techniques based on the interaction radiation-matter.

#### Detailed program

Sources of ionizing radiation. Energy transfer from radiation to materials. Defects induced by radiation. Experimental techniques for the study of the effects of the interaction radiation-matter on the physical properties of the materials: nuclear techniques, as Accelerator Mass Spectrometry (AMS), luminescence techniques and X-ray Fluorescence (XRF).

#### Prerequisites

Basic knowledge of physics of matter

#### Teaching form

Lessons and exercises. Visits to research laboratories.

### **Textbook and teaching resource**

Ppt presentations and "ad hoc" textbook

### **Semester**

Second semester (February-June)

### **Assessment method**

The basis of the interaction of radiation with materials will be assessed, together with the knowledge of the techniques introduced during the lessons

### **Office hours**

On request contacting the teacher at: [m.martini@unimib.it](mailto:m.martini@unimib.it)

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