

# POSMAT I Programa de Pós-graduação em Engenharia de Materiais



**Course:** Nanomaterials

**Code:** POSMAT0014

**Credits:** 03

**Module:** Specific formation

**Research area:** Selection, processing e characterization

Biomaterials

Recycling.

## **Contents:**

Introduction to nanoscience and nanotechnology. Principles of nanoscience and fundamentals. Classes of nanomaterials (nanoparticles, nanotubes, nanofilms, nanowires, nanocomposites, nanoporous materials). Methods of preparation and characterization. Applications of nanomaterials. Labor market in Brazil focused on nanomaterials. Technical standards in Brazil and worldwide.

## **References:**

1. WOLF, E. L. **Nanophysics and nanotechnology: an introduction to modern concepts in nanoscience**. 3<sup>rd</sup> ed. New York/US, Weinheim: Wiley-VCH, 2011. 292 p.
2. VOLLATH, D. **Nanomaterials: an introduction to synthesis, properties and applications**, 2<sup>nd</sup>. ed. New Jersey/US, Wiley, 2015. 314 p.
3. BENELMEKKI, M. **Nanomaterials: The original product of nanotechnology**. 1<sup>st</sup> ed. Bristol/UK, IOPScience, 2019. 94 p.
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