University *of Ljubljana*
Faculty *of Mechanical Engineering*

Nanotechnologies 5 ECTS

Lecturer: **M. Kalin**

Lectures: 30h | Tutorials: 12h | Labs: 18h | Project: 0h | Lang. :

Programme

The course first presents introductory terms and definitions, presents examples and different areas of nanotechnologies, and sheds light on the historical development. The causes and differences between macro- and nano-scale phenomena that lead to the many advantages of nanotechnologies are presented. The course also deals with the theoretical foundations of phenomena such as wettability and surface energies, adhesion and other phenomena, especially at the boundary between solids and liquids. An important part of the course is represented by methods for characterizing materials on the nano scale, as well as methods for the production of various nano materials. The differences in the production of materials on the macro and nano scale are given. The subject also touches on modelling and health aspects of nanotechnologies.