Study program: PhD	
Module title: Applications of nanotechnology and nanomaterials	
Module status: Optional	
ECTS: 15	
Requirements: none	
Learning objectives: Students will gain an extensive theoretical and practical knowledge's related to nanotechnology and applications of novel nanomaterials.	
Learning outcomes: After completing the course and mastering the course the student should have acquired knowledge about the latest theoretical concepts and practical applications of nanostructures. Also, the student should acquire knowledge of modelling and simulation of nanostructures by using the latest software tools. The possibility of independent monitoring of relevant professional and scientific literature as well as independent research in these areas.	
Syllabus: The significance of nanotechnologies. Nanostructures and characterization techniques on a fine scale. Nanotechnology in biomedicine, energy, infrared technology, microwave systems, food industry, telecommunication systems. Sensor technology (Nanomembranes and their application in Plasmon sensors). Nanotechnology in environmental protection. Directions of the development of nanotechnology. Application software packages for modelling and simulation of nanostructures.	
Literature: 1. P. Prasad, "Nanophotonics", Wiley-Interscience, 2004. 2. S. A. Maier, "Plasmonics: Fundamentals and Applications", Springer, 2007 3. An adequate review articles from leading relevant scientific journals.	
Weekly teaching load: 2+1	
Methods of delivery: Lectures (2 hours per week), computer lab (1 hour per week),	