

General Information			
Course name	Methods of preparation and characterization of nanostructures	ECTS Credits	3
		Semester	S
Aims			
<p>The goal of this course is to make an overview of methods used for fabrication of nanostructures and nanodevices.</p>			
Content			
<p>This course teaches student about methods for fabrication of microelectromechanical devices, microanalytical devices and nanoobjects using top-down methods. I will make an overview of forces acting upon nanoobjects, thermodynamics on nanoscale. Overview of thin film preparation methods will be also given. I will talk about conventional and unconventional nanopatterning methods. Also, application of nanostructures in fundamental and applied science will be described. Part of this course is also laboratory practice.</p>			
Assessment Methods and Criteria			
PowerPoint review of selected topic			
Grading Scale (in %):			
A: 91% - 100%			
B: 81% - 90%			
C: 71% - 80%			
D: 61% - 70%			
E: 51% - 60%			
F: 0% - 50%			

Grading System:

The University recognises the following six degrees for the evaluation of the study results:

- a) A – excellent (excellent results) (numerical value 1)
- b) B – very good (above average results) (1.5)
- c) C – good (average results) (2)
- d) D – satisfactory (acceptable results) (2.5)
- e) E – sufficient (results meet the minimum criteria) (3)
- f) FX – failed (requires further work) (4)

Bibliography

1. B. Bhushan Ed., Handbook of nanotechnology, Springer Academic Publishers, 2nd edition, 2007.
2. J. A. Rogers, H. H. Lee, Unconventional nanopatterning techniques and applications, Wiley, 1990.
3. G. Hornyak, J. Dutta, H. F. Tibbals, A. K. Rao, Introduction to nanoscience CRC Press, 2008.
4. G. A. Ozin, A. C. Arsenault, L. Cademartiri, Nanochemistry A Chemical Approach to Nanomaterials, RSC Publishing, 2005.

