Course Unit Descriptor

Study Programme: Biomedical engineering
Course Unit Title: Fabrication of Microfluidic chips
Course Unit Code: BMIM1G
Name of Lecturer(s): Stojanović Goran
Type and Level of Studies: Master
Course Status (compulsory/elective): elective
Semester (winter/ summer): winter
Language of instruction: english
Mode of course unit delivery (face-to-face/distance learning): face-to-face
Number of ECTS Allocated: 6
Prerequisites: none
Course Aims:. - To acquire the various techniques of manufacturing microfluidic chips and microfluidic devices - Xurographic technique - Soft lithography - PDMS - Flexdym
Learning Outcomes: - Ability to design of innovative microfluidic chips - Understanding the advantages and disadvantages of various techniques for manufacturing microfluidic chips - Ability to work with modern equipment for the fabrication of these chips - Ability to realize microfluidic chips and devices using modern fabrication techniques
Syllabus. Xurographic techniques. Soft lithography. Using materials such as PDMS, Flexdym, etc. Getting acquainted with chip fabrication equipment - Cater, Ink-jet printer, Screen printer, 3D printer, etc. Fabriction of different microfluidic chips for applications in biomedicine - active and passive micromixer, etc. Fabrication of sensors for the detection of psychoactive substances, for determining the pH value, for the selection of drugs, for determining false from the right drugs, etc
Required Reading:

Weekly Contact Hours: 2	**Lectures: 3**	**Practical work: 0**

Teaching Methods: Lectures. Laboratory exercises.
Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Attendance			
Computer exercises			
Tests (4x)			