COURSE/MODULE DESCRIPTION (SYLLABUS)

1.	Course/module (in English and Polish) **Novel methods to study the cells and biomolecules interaction** (Nowoczesne metody badań komórek i oddziaływania biomolekuł)
2.	Language of instruction English
3.	Faculty **Faculty of Biotechnology**
4.	Course/module code **29-BT-S1S2-E1-NOLVEL**
5.	Course/module type (*mandatory* or *elective*) **elective**
6.	Programme **Biotechnologia, Biotechnology, Medical Biotechnology**
7.	Study cycle **1st and 2nd cycle**
8.	Year 3rd
9.	Semester *(autumn* or *spring)* **autumn**
10.	Form of tuition and number of hours **lecture, 15h**
11.	Name, Surname, academic title Adam Pomorski, PhD
12.	Initial requirements (knowledge, skills, social competences) regarding the course/module and its completion Basic knowledge of Biophysical Chemistry and Molecular Biology
13.	Objectives Gaining knowledge about the most advanced methods to study the cell and biomolecules interactions.
14.	Content During the lecture the students will get to know about principles and applications of most advanced laboratory methods. The following methods will be discussed: Nanopores, Super-resolution microscopy, Single molecule fluorescence, Optical/Magnetic tweezers, Atomic Force Microscopy, Mass spectrometry.

15.	Learning outcomes Student: - Student can make a qualitative and quantitative description of the basic biological phenomena and processes - Student knows the basic concepts, terms, techniques used in biochemistry, biotechnology and molecular biology, be versed in the development of the above-mentioned fields - understands the scientific literature in the field of biochemistry, biotechnology, molecular biology and microbiology in English - understands the need for continuing education throughout the whole life, including deepening knowledge in biological sciences	Outcome symbols K_W01 K_W06 K_U02 K_K01
16.	Recommended literature Bengt Nölting (2010) Methods in Modern Biophysics. Springer	
17.	Methods of verification of the assumed learning outcomes Individual report on recent application of discussed methods	
18.	Conditions of earning credits Delivery of individual report on recent application of discussed methods	
19.	Student's workload	
	Activity	Number of hours for the activity
	Hours of instruction (as stipulated in study programme) : lecture consultation	 15 5
	Student's own work reading preparing the report	 10 10
	Total number of hours	40
	Number of ECTS	2