

Course name: Genetic engineering (USOS Code: B-BMED.2013Eng)

ECTS: 4

No. of hours: 45 (15 lectures + 30 classes)

Course coordinator: Dr hab. Andrzej Mazur, prof. UMCS

Prerequisites: General knowledge of genetics and molecular biology, completed courses in genetics and microbiology

Course description: The basis of *in vitro* DNA recombination. Techniques for transgenic organisms production. DNA sequencing techniques (including NGS) and projects. Transcriptome and proteome analyses. From gene to function – DNA mutagenesis and gene knockouts. Analyses of biomolecules interactions. Application and safety of recombined DNA technology

Recommended literature: Brown T.A. Genomes, Taylor & Francis Inc. 2017; Watson J.A., Caudy A.A., Myers R.M., Witkowski J.A. Recombinant DNA. Genes and genomes - short course. Cold Spring Harbor Laboratory Press, 2007.