

**Course name: Genetics with elements of human genetics** (USOS Code: B-BM.068Eng)

**ECTS: 5**

**No. of hours:** 60 (30 lectures + 30 classes)

**Course coordinator:** Prof. dr hab. Monika Janczarek

**Prerequisites:** Completed course in Biochemistry

**Course description:** The module covers the knowledge of principles of genetics in prokaryotes and eukaryotes, including humans, at the level of molecules, cells, and multicellular organisms. Topics include Mendelian and non-Mendelian inheritance; mechanisms involved in genetic inheritance; human genetic syndromes; structure and function of DNA, chromosomes, and genomes; organization of prokaryotic and eukaryotic genomes; DNA replication, recombination and repair; transcription and regulation of gene expression; mutations and mutagenesis and their effects on gene expression.

**Recommended literature:** Brown T.A., Genomes 3, Garland Science 2007; Krebs J.E., Goldstein E.S., Kilpatrick S.T., Lewin. Genes XI, 2014; Hartwell, Hood, Goldberg, Reynolds, Silver, Veres. Genetics: From Genes to Genomes, University of North Carolina Greensboro, The McGraw-Hill Companies, Inc. 2009.