

**Course name: Cell biology – an extensive course** (USOS Code: B-BMED.2001Eng)

**ECTS: 8**

**No. of hours:** 90 (30 lectures + 60 classes)

**Course coordinator:** Dr Joanna Strubińska

**Prerequisites:** Basic knowledge of chemistry and biochemistry issues

**Course description:** The study of cell biology is fundamental to learning about living organisms. This course will provide students with understanding of internal organization and functions of the eukaryotic cell. Diversity and complexity of cellular structure and functions will be study with special emphasis on: basic research methods used in cell biology- especially microscopes; chemical composition, bounds and their effect on inter- and intramolecular interactions; membrane structure, and function including- fluidity, asymmetry, transport, cell-cell signalling, cell adhesion; cytoskeleton with motor proteins and cell movement; cell junctions and the extracellular matrix; organelles structure and function; cell cycle, divisions and their regulation; cell death – necrosis, apoptosis (programmed cell death) and cancer development.

**Recommended literature:** Essential Cell Biology by Bruce Alberts, Karen Hopkin, Alexander D Johnson, David Morgan, Martin Raff, Keith Roberts, Peter Walter, New York, NY : Garland Science, 2014 or 2019 (fourth or fifth edition).