Course name: Tumor biology (USOS Code: B-BMOL.033)

ECTS: 4

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

Course coordinator: Dr hab. Roman Paduch, prof. UMCS

Prerequisites: -

Course description: Genetic and molecular aspects related to neoplastic transformation. Cell changes ascribed to particular stages of the carcinogenesis. Cells of the immune system and soluble mediators associated with neoplastic growth. Tumor differentiation based on cell morphology as well as variability of TSA and TAA markers. Molecular properties related to the malignancy of tumors in selected examples. Cell pathways related to the growth, survival and mobility of transformed cells. Molecular and cellular basis of EMT and MET processes. Cellular and receptor changes related to neoplastic metastasis. The mechanism of the spread of neoplastic cells depending on the migration route. Cellular and molecular aspects of targeted migration of neoplastic cells to specific organs. Targeted, molecular and genetic methods of diagnosis and treatment of cancer patients.

Recommended literature: Molls M., Vaupel P., Nieder C., Anscher M.S. eds The impact of tumor biology on cancer treatment and multidisciplinary strategies. 2009, Springer - Verlag Heidelberg.