Summary of discipline “Cytogenetics”

The aim of the discipline is to study of the structure and functioning of chromosomes and the cell nucleus in health and disease and familiarization with modern methods of cytogenetics.

Knowledge, abilities, skills obtained as a result of mastering the discipline

As a result, students will:

- **know:** modern advances in cytogenetics in the field of the structure and functioning of chromosomes, as well as the analysis of chromosomal abnormalities, principles of fluorescence *in situ* hybridization, the role of molecular cytogenetic methods in clinical diagnostics, genetic toxicology and the study of evolution.

- **be able to:** conduct scientific research using cytogenetic methods; analyze literature and electronic media on cytogenetics; analyze, statistically process and formalize the results of experimental studies.
- **possess:** the skills of preparing chromosome preparations and chromosomes staining; skills in working with microscopes; the skills of analyzing chromosomal aberrations using traditional and molecular cytogenetic methods; skills in working with the image analysis program (Ikaros Karyotyping System / MetaSystems).