Histology, Cytology, Embryology is an academic discipline containing systematized scientific knowledge and methods on the patterns of development, microscopic structure and vital activity of cells, tissues and their interaction in the composition of organs.

**Objectives** of "Histology, cytology, embryology" consist of forming and students' acquisition of scientific knowledge about the patterns of development, about microscopic and submicroscopic organization of cells, tissues and organs as the structural basis of their functioning in a normal human body.

As a result, the theoretical prerequisites for mastering and understanding the essence of physiological and pathological processes that contribute to the formation of the conceptual apparatus of medicine, the development of the foundations of clinical thinking and the acquisition of professional competencies are laid.

**The tasks** of studying the discipline consist in the students' acquisition of academic competence, the basis of which is the ability to independently find teaching and information resources, mastering the methods of acquiring and understanding knowledge:

- basic concepts of the structure of the human body using the methods of microscopic and ultramicroscopic research, taking into account new scientific data, methodological and theoretical concepts necessary for the formation of the clinical thinking of a doctor;

- causes and mechanisms typical for general and particular patterns of pre- and postnatal development of the organism, of age-related changes of cells, tissues and organs as the basis of ideas about the individual and age variability of the organism;

 - independently read histological preparations and electron micrographs, understand, explain and summarize specific information about microscopic and submicroscopic structures and their significance in histophysiological processes occurring in the developing organism, their applied significance;

- apply histological terminology, form and actively use the conceptual apparatus, work with the scientific literature, with databases, with modern information systems;

- to reveal the progressive ideological, theoretical and practical significance of the main discoveries in histology, embryology, cytology, the place and role of domestic scientists in the development of morphology, ideas of humanism in medicine, to understand the role of knowledge in the discipline in the subsequent professional training of a doctor

Students should

**know**:

* general laws and stages of embryonal human development;
* sources of development, peculiarities of structure and functions, age-related changes in main types of tissue;
* peculiarities of tissular structure of human body organs; spatial relationships between tissues in organs;
* peculiarities of structure, functions and age-related changes in cells structure in a living organism;
* general laws of tissue regeneration and limits of their variability;
* peculiarities of obtaining the material for histological investigation, methods of tissue fixation.

**be able to:**

* differentiate a structural elements of cells and tissues in organs during microscopic invesigation of bioptic and operational material;
* recognize an electron micrographs of cells and non-cellular structures of organs and tissues.

**to manage:**

* microscopy technique;
* safe work skills in the histology laboratory;
* histological terminology.

In total, 222 academic hours are devoted to the study of the discipline. Classroom hours - 137, of which 32 hours of lectures, 105 hours of laboratory classes. The knowledge assessment is in the form of a test in the second semester and an exam in the third semester.