

## **Biological Fundamentals of Infectious Processes**

1. Lecturer: Vinnikova Olha Ivanivna, associate professor of the department of plant and microorganism physiology and biochemistry.
2. Status: optional for masters.
3. Course, semester: 1th academic year, 2th semester.
4. Number of credits – 3, general academic hours – 90, lectures – 20; seminars – 13; self-study – 57.
5. Preliminary requirements: basics of Biochemistry, Microbiology, Genetics, Molecular Biology, Human Physiology, Zoology, Ecology
6. Description of the course: the course "Biological basis of infectious processes" has an integrative character. The course deals with the concept of the infectious process and infectious diseases, their agents, toxins and pathogenic factors of microorganisms, and physiological mechanisms of protection of animals against infections. The course presents the general issues of epidemiology of infectious diseases and methods of their prevention. Also, the approaches to the diagnosis of infectious processes are discussed. Special part of the course includes a characterization of the most common infectious disease of bacterial and viral nature. A student who fully mastered this course will acquire practical orientation skills necessary for professional work in microbiology.

Sections: 1) the basic concept of the infectious process, pathogens, immune response and epidemiology of infectious diseases; 2) infectious diseases and methods of their diagnostics.

### Knowledge and skills:

- Classification of microorganisms on the degree of biological hazards and risks and features of good microbiological practice;
  - Infectious processes, their agents and virulence factors and pathogenicity of microorganisms;
  - The basis and principles of epidemiology of infectious diseases;
  - Molecular mechanisms of infectious processes, mechanisms of immune response to various infectious agents;
  - Principles of microbiological diagnostics of infectious processes and diseases.
7. Course organization: lectures, seminars. Forms of control: tests, reports, exam.
  8. Language: Ukrainian.
  9. Educational and methodological support: program, schedule of classes, educational and multimedia presentations, methodical complex, guidelines for practice.

### Studentbooks:

1. *Гавришева Н.А., Антонова Т.В.* Инфекционный процесс: клинические и патофизиологические аспекты: учеб. пособ. – СПб.: Специальная Литература, 1999. – 255 с.
2. *Лабинская А.С., Волина Е.Г.* Руководство по медицинской микробиологии, в 3-х т. – М.: Бином, 2008-2012.
3. *Шувалова Е.П.* Инфекционные болезни. – М.: Медицина, 2005. – 696 с.
4. *Медична мікробіологія, вірусологія та імунологія: підручник / За ред. В.П. Широбокова,* видання 2-е. – Вінниця: Нова книга, 2011. – 952 с.
5. *Поздеев О.К.* Медицинская микробиология. – М.: Геотар-Мед, 2004. – 765 с. Биохимические основы микробиологических производств. – К.: Вища школа, 1994. – 230 с.
6. *Возианова Ж.И.* Инфекционные и паразитарные болезни. В 3-х т. – Київ: Здоровья, 2000.
7. *Атлас по медицинской микробиологии, вирусологии и иммунологии: учеб. пособ. / Под ред. А.А. Воробьева, А.С. Быкова.* – М.: Медицинское информационное агенство, 2003. – 236 с.