**MINISTRY OF EDUCATION AND SCIENCE OF THE KYRGYZ REPUBLIC**

**Government-run Educational Institution of Higher Professional Education**
**Kyrgyz-Russian Slavic University**
**Institute of Clinical Medicine and Biomedical Technologies**

**Endorsed by**
**the Director, Assoc. Prof. Abilova S.S.**
«04» 11. 16

# PARASITOLOGY
Course Outline (Module)

Assigned to the Department of Academic Curriculum: **Physics, Medical Informatics and Biology**
560001 KR General Medicine (for foreign students)

Qualification: **Specialist**

Mode of Study: **Intramural**

**The Course outline developed by: Kostritsyna T.V.**

| **Course Hours Scheduling (per semester)** | | | | |
|---|---|---|---|---|
| **Semester Academic Year** | **2 (1.2)** | | **Total** | |
| **Weeks** | **16** | | | |
| **Type of Training** | EP | WP | EP | WP |
| Lectures | 8 | 8 | 8 | 8 |
| Practical Session | 8 | 8 | 8 | 8 |
| Contact Work During the Period of Theoretical Training | 0,3 | 0,3 | 0,3 | 0,3 |
| including of Interactive Session | 2 | 2 | 2 | 2 |
| Total in Auditorium Session | 16 | 16 | 16 | 16 |
| Contact work | 16,3 | 16,3 | 16,3 | 16,3 |
| Independent Work | 13,7 | 13,7 | 13,7 | 13,7 |
| Total | 30 | 30 | 30 | 30 |

| 1. COURSE OUTLINE OBJECTIVES | |
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| 1.1 | The main concept of a medical parasitology course is the study of parasites that infect humans, the diseases they cause, and the complex relationships between the host and the parasite. Students learn the methods used to combat parasitic diseases, which can range from low-tech to highly advanced. The course covers the major groups of human parasites, including multicellular helminths (worms). It also includes arthropods that cause disease or act as vectors. |
| 1.2 | The course examines the main groups of multicellular parasites that affect humans, including their distinctive features, life cycles, and habitats. A key focus is understanding the complex life cycles of these organisms and how they interact with their human hosts, including the effects they have on the body. |
| 1.3 | The main objective of medical parasitology is to provide students with knowledge of medically important parasites, including their biology, life cycles, and the diseases they cause. Develop the skills to identify parasites and their different life stages through microscopic examination and other diagnostic methods. |

| 2. PLACE OF THE COURSE IN THE EDUCATIONAL PROGRAM | |
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| **Educational Program Units:** | **B 1 .B.16.06** |
| **2.1** | **Students' Preliminary Training Requirements:** |
| **2.1.1** | **Biology, anatomy and general biology which include in a high school level** |
| **2.1.2** | **Medical biology** |
| **2.1.3** | **Chemistry in the framework of a high school level** |
| **2.2** | **COURSE UNITS AND PRACTICAL SESSIONS IMPOSING THE PRIOR PROFICIENCY** |
| **2.2.1** | Histology |
| **2.2.2** | Epidemiology |
| **2.2.3** | Immunology |
| **2.2.4** | Pathophysiology, clinical pathophysiology |
| **2.2.5** | General hygiene Normal physiology |
| **2.2.6** | Dermatovenereology |
| **2.2.7** | Zymotic diseases |
| **2.2.8** | Phthisiology |
| **2.2.9** | Forensic Medicine |
| **2.2.10** | Anesthesiology, resuscitation and intensive care |
| **2.2.11** | Nervous diseases |
| **2.2.12** | Ophthalmology |

| 3. STUDENTS' COMPETENCIES, RESULTING FROM THE COURCE UNIT (MODULE) | |
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| **IC-l - is able and ready to analyze socially significant problems and processes, use the methods of natural sciences, mathematics and the humanities in various types of professional and social activities**<br>**PC-10 - able and ready to carry out preventive measures to prevent infectious, parasitic and non-communicable diseases** | |
| **AFTER STUDY OF THE DISCIPLINE THE STUDENT MUST:**<br>**TO KNOW** | |
| **Level 1** | basic biological concepts of morphology and development of parasitic animals and their vectors |
| **Level 2** | the main scientific - medical and biological features of the development of parasitic animals and their vectors |

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| **Level 3** | basic methods of comparative analysis of parasitic animals and their vectors |
| **AFTER STUDY OF THE DISCIPLINE THE STUDENT MUST:<br>BE ABLE TO:** | |
| **Level 1** | to identify morphological features of parasitic animals and their vectors<br>After studying medical parasitology, students must be able to identify and diagnose parasitic infections, understand the biology and life cycles of parasites, and comprehend their pathogenesis and public health implications. |
| **Level 2** | Practical and analytical skills. Laboratory identification: Perform practical laboratory work to identify parasite stages using techniques like microscopy. |
| **Level 3** | Analyze and interpret data: Critically analyze scientific data and interpret experimental results in an appropriate scientific format.<br>Apply information, bibliographic resources, processing methods, search for scientific and technical information using general and specialized databases and use specialized software when carrying out theoretical calculations and processing experimental data to solve standard problems of professional activity |
| **AFTER STUDY OF THE DISCIPLINE THE STUDENT MUST:<br>OWN SKILLS** | |
| **Level 1** | **Elementary methods of work and safety instructions for laboratory equipment and chemical reagents in biological, parasitological laboratories; general safety rules for handling computers.** |
| **Level 2** | ***To know:***<br>Fundamental professional definitions, categories, and signs (symptoms)<br>***Be able to:***<br>Use fundamental professional definitions, categories, and signs (symptoms) to carry out professional activities.<br>Solve clinical problems: Interpret clinical and investigational data to logically reason and solve clinical problems related to parasitic diseases. |
| **Level 3** | ***Be able to*** use educational, scientific, popular science literature, reliable medical electronic resources for research activities, highlight the main thing in the flow of information |

**AS A RESULT OF LEARNING THE DISCIPLINE, THE STUDENT MUST**

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| **3.1** | **KNOW:** |
| **3.1.1** | The general concepts that are fundamental to all biological systems, Levels of biological organization. |
| **3.1.2** | Cell morphology. Structural components of the cytoplasm and nucleus Structural and functional organization of the prokaryotic & eukaryotic cells |
| **3.1.3** | Molecular bases of heredity. Characterization of nucleic acids. |
| **3.2** | **BE ABLE** |
| **3.2.1** | Identify and classify parasites: Recognize and classify medically important metazoan parasites based on their morphology, biology, and clinical significance. |
| **3.2.2** | Recognizing the relationship between parasites and their hosts, including mechanisms of pathogenicity. |
| **3.2.3** | Applying basic techniques to examine parasites and interpret results.<br>Recognizing the relationship between parasites and their hosts, including mechanisms of pathogenicity. |
| **3.2.4** | Safety: Demonstrating safe work practices, including proper handling of infectious materials and observing biosafety protocols. |

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| **3.2.5** | Scientific communication: Preparing written reports, presenting research findings at conferences, and teaching scientific concepts to others. |
| **3.3** | **TO OWN SKILLS:** |
| **3.3.1** | To demonstrate awareness human parasites common in certain localities and other parts of the world. Classify parasites of medical importance in its broad scientific taxonomic positions. |
| **3.3.2** | To outline and discuss epidemiologic principles of parasitic disease. Describe and discuss the common parasitic diseases caused by protozoa as regards infective stage, mode infection and life cycle of parasites of medical importance. To identify medically important vectors or intermediary hosts and incriminate them in disease transmission |
| **3.3.3** | Critical analysis: Interpreting scientific literature and critically appraising data to form evidence-based conclusions. Ethical conduct: Understanding and applying ethical principles in research and professional practice. |