

Parasitic Worms Course

This description provides a summary of the course's key features and outlines the expected learning outcomes for students, demonstrating the extent to which they have made the most of the available learning opportunities. These outcomes must be linked to the academic program description

1. Educational Institution	Shat al-Arab University
2. Academic Department	Pathological Analysis
3. Course Name/Code	PATH-225
4. Available Attendance Formats	Core Course
5. Semester / Academic Year	First Semester 2025–2026
6. Total Credit Hours	125
7. Date this description was prepared	July 20, 2026

8. Course Objectives

The Parasitic Helminthology course aims to

1. introduce the basic concepts of parasitology and its importance in the medical and health fields.
2. Classify parasitic worms into their major groups and study the characteristics of each group.
3. Identify the morphological and structural characteristics of parasitic worms at their various life stages.
4. Understand the life cycles of parasitic worms and their modes of transmission between hosts and the environment.
5. To study the relationship between parasitic worms and their hosts, as well as the mechanisms by which they cause disease.
6. To identify the clinical symptoms and diseases caused by parasitic worms in humans.
7. To acquire knowledge of laboratory diagnostic methods for parasitic worms using various clinical specimens.
8. To identify methods for preventing and controlling parasitic worm infections and limiting their spread.
9. Develop the ability to interpret laboratory test results and relate them to the clinical condition.
10. Develop scientific thinking and research skills in the field of parasitic worms and keep abreast of related scientific developments.

Learning Objectives for the Parasitology Course

1. To familiarize students with the concept of parasitology and its medical and public health significance.
2. To distinguish between the major groups of parasitic worms (nematodes, tapeworms, and roundworms).
3. To describe the morphological and structural characteristics of parasitic worms and their various life stages.
4. Explain the life cycles of parasitic worms and their modes of transmission.
5. Identify the definitive host, the intermediate host, and the modes of transmission for each species.

Skill Objectives for the Parasitic Worms Course

1. Develop the skill of examining and diagnosing parasitic worms and their various life stages using a microscope.
2. Equip students with the skills to prepare and examine laboratory specimens (feces, blood, etc.) to detect parasitic worms.
3. To develop the ability to distinguish between eggs, larvae, and adult worms based on morphological characteristics.
4. To equip students with the skills to apply basic laboratory techniques used in diagnosing parasitic worm infections while adhering to biosafety procedures.
5. To develop the skill of interpreting laboratory results and correlating them with the patient's clinical symptoms to assist in reaching a correct diagnosis.

Teaching and Learning Methods for the Parasitology Course

1. Interactive theoretical lectures.
2. Hands-on laboratory training in the diagnosis of parasitic worms and their various life stages.
3. Use of microscopes, permanent slides, and educational specimens in hands-on learning.
4. PowerPoint presentations supported by images, illustrations, and life cycles.
5. Class discussions and problem-based learning (PBL) to analyze parasitic cases.
6. Assigning students to prepare reports or seminars on parasitic worms and the diseases they cause.
7. Use of modern educational media, such as instructional videos and digital simulations, to explain life cycles and diagnostic methods.

Assessment Methods

1. Written exams (midterm and final).
2. Practical laboratory exams to assess microscopic diagnostic skills.
3. Practical reports and lab reports.
4. Seminars (presentations) and scientific discussions.
5. Continuous assessment through class participation, assignments, and educational activities.

Attitudinal and Values-Based Objectives

1. To reinforce adherence to laboratory ethics and maintain confidentiality and accuracy in handling specimens.
2. To foster a sense of responsibility toward the prevention of parasitic diseases and to promote health awareness in the community.
3. Reinforcing commitment to implementing biosafety procedures within the laboratory when handling samples.
4. Encourage teamwork, respect for others' opinions, and collaboration in carrying out practical and research activities.

General and Transferable Skills (Other Skills Related to Employability and Personal Development)

1. Develop effective communication and teamwork skills in academic and laboratory settings.
2. Enhance critical thinking, problem-solving, and decision-making skills in the diagnosis of parasitic infections.
3. Equipping students with the skills to use laboratory techniques, equipment, and computer software related to the field of pathological analysis.
4. Develop skills in preparing scientific reports and presentations and in searching for reliable scientific sources.
5. To enhance students' capacity for self-directed learning, continuous professional development, and keeping abreast of scientific advances in the field of parasitic worms.

9. Course Structure

Week	Lecture Topic	Lab Session	Learning Method	Learning Outcomes
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1	Introduction to Helminths	Identifying Types of Parasitic Worms and Using a Microscope	Interactive lecture, presentation, lab	1. Introduction to the Concept of Parasitic Worms 2. Distinguishing the main groups 3. Familiarization with laboratory equipment
2	Phylum Platyhelminthes	Examining Flatworm Slides	Theoretical Explanation, Practical Lab, Educational Images	1. Learning about the Characteristics of Flatworms 2. Distinguishing Their Morphological Characteristics 3. Correctly Classifying Them
3	Echinostomata Fasciola	Examining slides and eggs	Lecture, discussion, lab	1. Identifying the shape of the fasciola 2. Explanation of the life cycle 3. Learning diagnostic methods
4	Order: Opisthorchiata Clonorchis	Examination of Prepared Glass Slides	Lecture, presentation, lab	1. Introduction to Clonorchis 2. Description of the life cycle 3. Statement of medical significance
5	Order: Schistosomatida	Examination of Eggs and Types of Schistosomiasis	Theoretical Explanation, Laboratory Practice, Discussion	1. Differentiation Between Species 2. Identification of Eggs 3. Understanding Laboratory Diagnosis
6	Order: Cyclophyllidea Taenia	Examination of Glass Slides	Lecture, educational images,	1. Differentiating Between Taenia Species 2. Identification of the head 3. Explanation of the life cycle

7	Order: Cyclophyllidea Echinococcus	View Slides for All Forms	Lecture and Scientific Discussion	1. Identifying Echinococcus 2. Understanding Hydatid Cysts 3. Learning about prevention methods
8	Nematohelminthes	Examining Cylindrical Worm Specimens	Lecture, Presentation,	1. Identifying roundworms 2. Comparing Them to Flatworms 3. Correct classification
9	Midterm exam.	Practical Test	Assessment of scientific knowledge	1. Assessment of theoretical knowledge 2. Assessment of practical skills 3. Identification of weaknesses
10	Order: Ascaridata Ascaris	Examination of worms of both sexes and eggs	Lecture, Lab, Discussion	1. Identification of Ascaris 2. Description of the life cycle 3. Diagnosis of Infection
11	Order: Oxyurata Enterobius	Examination of Eggs and Adult Worms	Lecture, Presentation, Lab	1. Identification of Pinworms 2. Understanding modes of transmission 3. Knowledge of diagnostic methods
12	Order: Trichelata (Trichuris)	Examination of Prepared Glass Slides	Lecture, presentation,	4. Macroscopic Diagnosis 5. Description of Eggs 6. Understanding prevention methods
13	Order: Trichelata (Trichnela)	Viewing the Prepared Slides	Lecture and scientific discussion	1. Identification of adult worms 2. Understanding the life cycle

				3. Identification of diagnostic methods
14	Order: Strongylata Ancylostoma	Examining both adult worms and eggs	Lecture, Presentation • Discussion	1. Identifying Ancylostoma Forms 2. Understanding modes of transmission 3. Diagnosis of Infection
15	Order: Strongylata Necator	Examination of Glass Slides	Lecture, Lab, Discussion	1. Macroscopic Diagnosis of Infection 2. Life Cycle 3. Routes of Infection

10. Infrastructure

1. Foundations of Parasitology.
2. Medical Parasitology.
3. Human Parasitology.
4. Clinical Parasitology.

11. Course Development Plan

1. Coordinate with hospitals and diagnostic laboratories to provide real clinical samples that support the practical component of the course.
2. Periodically update the course's scientific content in line with the latest references and research in the field of parasitic worms.
3. Provide modern teaching aids, including microscope slides, educational specimens, and digital media, to enhance the learning process.
4. Organize workshops and training courses to develop students' practical skills in diagnosing parasitic worms and using modern laboratory techniques.

M.M. Ghadir Mahmoud Fakher, Abdullah Hamoud Abdullah, Prof. Hadi Salman Abbas

Course Instructor

Department Chair

Dean of the College