

Course Description for Introductory Parasitology

This description provides a summary of the course's key features and sets out 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 description of the academic programme

1. Educational Institution	Shatt al-Arab University
2. Academic Department	Pathological Analysis
3. Course Name / Code	PATH-215
4. Available delivery modes	Core Course
5. Term / Year	First Semester 2025–2026
6. Total number of contact hours	150
7. Date this description was prepared	20 July 2026

8. Course Objectives

1. To familiarise students with the basic concepts of medically important protozoan parasites, their classification and general characteristics.
2. To enable students to recognise the morphological features and developmental stages of protozoan parasites, and to distinguish between them using microscopic examination and laboratory methods.
3. To provide students with knowledge of the life cycles of protozoan parasites and an understanding of their relationship to the transmission and persistence of infection in humans and in the vector or reservoir host.
4. To familiarise students with the modes of transmission of protozoan parasites and the epidemiological factors influencing their spread, as well as methods to limit their transmission and prevent infection.
5. To enable students to understand the pathogenic mechanisms of protozoan parasites, their effects on various organ systems, and the clinical symptoms associated with infection.
6. To equip students with the skills to diagnose protozoan parasites in the laboratory by identifying diagnostic stages in clinical specimens and selecting appropriate tests.
7. To familiarise students with the principles of prevention and control of parasitic diseases, and the importance of health education in reducing infection rates and the spread of infection.
8. To develop students' skills in interpreting laboratory test results and correlating them with the clinical presentation to arrive at the correct diagnosis.
9. To develop students' scientific and analytical thinking in the study of parasitic diseases, analyse diagnostic problems and propose appropriate solutions based on scientific principles.
10. To prepare students to pursue advanced studies and scientific research in the field of medical parasitology, and to enhance their competence to work in medical laboratories and healthcare institutions

A. Knowledge Objectives

1. To recognise the classification of pathogenic protozoa, their general characteristics and their medical significance.
2. To understand the morphological characteristics and different life stages of protozoan parasites, and to distinguish between them based on their diagnostic features.
3. To comprehend the life cycles of protozoan parasites, their modes of transmission, and the factors influencing their spread between humans and their hosts or vectors.
4. To explain the pathogenic mechanisms of protozoan parasites and relate them to the clinical manifestations and diseases they cause in humans.
5. To be familiar with methods of laboratory diagnosis of protozoan parasites, to interpret the results of laboratory tests, and to select appropriate diagnostic methods

B. Skills-based objectives of the module

1. To use a light microscope to examine prepared slides and identify the different life stages of pathogenic protozoa.
2. Distinguish between the morphological characteristics of protozoa using slides stained with Giemsa and carmine.
3. To acquire the skill of diagnosing protozoan parasites based on morphological characteristics, and to identify diagnostic stages in different samples.
4. To analyse and interpret microscopic observations and relate them to the parasite's life cycle and the patient's clinical condition in order to arrive at a correct diagnosis.
5. To prepare accurate laboratory reports that include a description of the microscopic findings, their interpretation, and a discussion of their diagnostic significance in accordance with scientific principles

Teaching and Learning Methods

1. Theoretical lectures to explain the basic concepts of pathogenic protozoa, their life cycles and their medical significance.
2. Practical laboratory sessions using a light microscope to examine prepared slides and identify the diagnostic features of parasites.
3. Presentations and scientific discussions to enhance understanding and develop critical thinking and analytical skills.
4. Case studies to link laboratory findings to clinical symptoms and diagnose parasitic infections.
5. Self-directed learning through the use of scientific references, books and up-to-date electronic resources in the field of medical parasitology.
6. Interactive learning through asking questions, problem-solving and discussing diagnostic scenarios during lectures.
7. Use of modern teaching aids such as microscopic images, electronic presentations and educational videos to illustrate the life cycles and different stages of parasites.

Assessment Methods

1. Written examinations (quizzes, mid-term and final) to assess students' understanding of fundamental concepts and theoretical knowledge.
2. Practical laboratory tests to assess students' ability to identify and diagnose protozoan parasites using prepared microscope slides.
3. Laboratory reports to assess students' skills in describing microscopic observations and interpreting diagnostic results.
4. Class participation and scientific discussions to assess the level of engagement, analytical ability and scientific reasoning.
5. Assignments and presentations to assess students' ability to conduct scientific research, organise information and present it in an academic manner.

C. Affective and Values-based Objectives

1. To foster students' interest in the study of medical parasites and their understanding of their importance in diagnosing diseases and maintaining public health.
2. To foster a sense of responsibility and commitment to laboratory ethics, and rigour in handling samples and laboratory results.
3. To instil a culture of prevention of parasitic diseases and to promote health awareness to reduce the transmission of infections within the community.
4. To foster a spirit of cooperation and teamwork during practical and laboratory activities, whilst respecting the views of others and exchanging scientific expertise.
5. To encourage students to commit to lifelong learning and to keep abreast of scientific developments in the field of medical parasitology and laboratory diagnosis.

D. General and transferable skills (other skills relating to employability and personal development).

1. To develop scientific thinking and logical analysis skills in the diagnosis of primary parasitic infections and the interpretation of laboratory test results.
2. To enhance communication and teamwork skills whilst carrying out laboratory activities and scientific discussions, thereby contributing to improved professional performance.
3. To develop skills in the use of the light microscope and laboratory equipment for the examination and diagnosis of protozoan parasites in accordance with good laboratory practice.
4. To equip students with the skills to prepare scientific reports, organise laboratory data and present it in an academically rigorous manner.
5. To develop skills in self-directed learning, scientific research and keeping abreast of developments in the field of medical parasitology, thereby enhancing employment opportunities and continuous professional development.

9. Course Structure

Week	Lecture Topic	Practical Session	Teaching Method	Learning Outcomes
1	Introduction to Theoretical Parasitology	Introduction to parasites, familiarisation with laboratory equipment and safety rules	Theoretical lecture, presentation, practical training	1. Definition of parasites 2. Understanding their significance 3. Commitment to safety
2	Introduction to the Primary Division	Viewing Primary School Samples	Presentation and discussion	1. Classification of the Awali 2. Understanding the characteristics 3. Distinguishing between them
3	Amoebida (Entamoeba)	Examination of microscope slides	Explanation and presentation of slides	1. Diagnosis of the parasite 2. Understanding the life cycle 3. Understanding infection
4	Amoebida (Endolimax & Iodamoeba)	Microscopic slide examination	Explanation and interactive discussion	1. Comparison between species 2. Morphological diagnosis 3. Microscopic differentiation
5	Spirotricha (Balantidium coli)	Viewing Microscopic Slides	Practical demonstration and explanation	1. Identifying the morphological features 2. Life cycle 3. Diagnosis
6	Diplomonadidae (Giardia)	Microscopic examination of samples	Explanation and presentation	1. Diagnosis of Giardia 2. Understanding transmission 3. Identifying life stages
7	Trichomonadina (Trichomonas)	Viewing Microscopic Slides	Classroom explanation and discussion	1. Understanding the disease 2. Diagnosis 3. Modes of transmission
8	Dinoflagellata (Nigellaria)	View diagnostic images	Explanation and visual presentation	1. Recognising the Infection 2. Diagnosis 3. Prevention
9	Mid-term exam	/	/	1. Assessment of Achievement 2. Comprehension Assessment 3. Level Assessment
10	Kinetoplastida Leishmania	Examination of microscope slides	Explanation and presentation of slides	1. Identification of infective stages 2. Diagnosis 3. Insect vector

11	Kinetoplastida Trypanosoma	Viewing Microscopic Slides	Lecture and discussion	1. Understanding the disease 2. Insect vector and its type 3. The Life Cycle
12	Eucoccidiida Cryptosporidium	Microscopic examination of samples	Explanation and presentation	1. Diagnosis of infection 2. Understanding modes of transmission 3. Prevention
13	Haemosporidia Plasmodium	Examination of blood smears from infected samples	Practical demonstration and slide presentation	1. Diagnosis of malaria forms 2. Distinguishing life stages 3. Insect vectors
14	Eucoccidiida (Toxoplasma)	Viewing Microscopic Slides	Classroom explanation and discussion	1. Understanding infection 2. Diagnosis 3. Prevention
15	Piroplasmida Babesia	Microscopic slide examination	Viewing and examining images	1. Morphological diagnosis 2. Comparison between species 3. Life cycle

10. Infrastructure

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

11. Course Development Plan

1. To provide as many parasite specimens and microscope slides as possible to support practical training and enhance students' diagnostic skills.
2. Organise specialist workshops and training courses in the field of parasite diagnosis and the use of modern laboratory techniques.
3. Coordinate with hospitals and medical laboratories to provide clinical samples from infected cases in accordance with ethical and educational guidelines, with the aim of linking theory to practical application.
4. Upgrading the laboratory with modern equipment and teaching aids to improve the quality of practical training.

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