# In the Name of God

**Hamadan University of Medical Sciences and Health Services**
**Educational Deputy of the University**
**Center for Studies and Development of Medical Sciences Education**

## Theory/Practical Lesson Plan Form

**Dear Colleagues,**

As the teaching-learning process is one that cannot achieve its objectives without planning, it is essential to develop a lesson plan at the beginning of the educational process (as a roadmap and guide for instructors and students). Therefore, it is requested that esteemed instructors exercise utmost care in completing the lesson plan.

## Course and Instructor Details (Completion of all items in this section is mandatory)

- **Course Title**: **Parasitology 2**
- **Instructor Name**: Dr. Faezeh Foroughi Parvar
- **Course Coordinator**: Dr. Faezeh Foroughi Parvar
- **Department Head**: Dr. Seyed Amir Ghiasian
- **Type and Credit Hours**: Theoretical 2 credits , Practical ..... credits
- **Field and Level of Student Study**: .....Bachelor's in Laboratory Sciences.....
- **Teaching Location**: .....Classroom 5, Paramedical Department.....

| Session | Title | Learning Objectives | Domain of Learning | Teaching Method | Duration | Teaching Aids | Evaluation Method |
|---|---|---|---|---|---|---|---|
| 1 | General Concepts and Classification of Protozoa | 1. Define types of symbiotic relationships<br>2. Define parasites<br>3. Name important protozoan phyla<br>4. Describe physiology, respiration, nutrition, and reproduction in protozoa<br>5. Explain immune mechanisms against parasitic protozoa | Cognitive | Memorization, Lecture, Q&A | 90-100 minutes | Computer with internet access, data projector, display screen, flash drive, Microsoft Office software (PowerPoint and Word), whiteboard, markers | Class assessment through questions, final exam |
| 2 | Plasmodium | 1. State the importance and distribution of malaria in Iran<br>2. Name human malaria Plasmodium species<br>3. Explain the malaria cycle<br>4. Describe clinical symptoms of malaria at the onset of infection<br>5. Analyze the stages of a malarial attack | Cognitive | Memorization, Lecture, Q&A | 90-100 minutes | Computer with internet access, data projector, display screen, flash drive, Microsoft Office software (PowerPoint and Word), whiteboard, markers | Class assessment through questions, final exam |
| 3 | Continuation of Plasmodium | 1. Identify clinical symptoms specific to each Plasmodium type<br>2. Describe immunity in malaria<br>3. Explain laboratory diagnosis of malaria<br>4. Describe prevention and control programs for malaria<br>5. Explain malaria treatment methods | Cognitive | Memorization, Lecture, Q&A | 90-100 minutes | Computer with internet access, data projector, display screen, flash drive, Microsoft Office software (PowerPoint and Word), whiteboard, markers | Class assessment through questions, final exam |
| 4 | Toxoplasma | 1. Explain the morphology of Toxoplasma gondii<br>2. Describe the life cycle of Toxoplasma gondii | Cognitive | Memorization, Lecture, Q&A | 90-100 minutes | Computer with internet access, data projector, display | Class assessment through questions, final exam |

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| | | 3. Explain the clinical presentation of toxoplasmosis and differentiate between acute and chronic phases<br>4. State immunity in toxoplasmosis<br>5. Analyze diagnostic methods for toxoplasmosis<br>6. Discuss treatment and prevention | | | | screen, flash drive, Microsoft Office software (PowerPoint and Word), whiteboard, markers | |
| 5 | Leishmania and Trypanosomes | 1. Describe the various morphological stages of Leishmania<br>2. Name different forms of leishmaniasis<br>3. Name diagnostic methods for Leishmania<br>4. Describe prevention and control in leishmaniasis<br>5. Discuss treatment for different forms of leishmaniasis<br>6. Analyze various forms of Trypanosoma<br>7. Name different types of Trypanosomiasis<br>8. Discuss the life cycle of Trypanosoma in African and American forms<br>9. Explain clinical symptoms in different stages of African and American Trypanosomiasis<br>10. Critique diagnostic methods for American Trypanosomiasis<br>11. Discuss prevention methods for African and American Trypanosomiasis separately | Cognitive | Memorization, Lecture, Q&A, Flipped Classroom for sections 6-11 | 90-100 minutes | Computer with internet access, data projector, display screen, flash drive, Microsoft Office software (PowerPoint and Word), whiteboard, markers, pre-class file for sections 6-11, microlearning design for sections 6-11 | Class assessment through questions, final exam |
| 6 | Entamoeba histolytica | 1. Describe the morphological stages of Entamoeba histolytica | Cognitive | Memorization, Lecture, Q&A | 90-100 minutes | Computer with internet access, data projector, | Class assessment through questions, group |

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| | | 2. Explain the evolutionary process of Entamoeba histolytica<br>3. State the role of innate and acquired immunity against Plasmodium<br>4. Describe clinical symptoms of amoebiasis<br>5. State diagnostic methods for amoebiasis<br>6. Introduce control and prevention methods | | | | display screen, flash drive, Microsoft Office software (PowerPoint and Word), whiteboard, markers | division for question design, final exam |
| 7 | Free-Living Opportunistic Amoebas, Balantidium | 1. Explain the naming of free-living amoebas<br>2. Describe the evolutionary process of Naegleria fowleri<br>3. State the clinical symptoms of Naegleria fowleri infection<br>4. Explain treatment and prevention<br>5. Name different infections caused by Acanthamoeba<br>6. Describe the evolutionary process of Acanthamoeba<br>7. Explain clinical symptoms of Acanthamoeba in skin, eye, and brain forms<br>8. Discuss treatment and prevention | Cognitive | Memorization, Lecture, Q&A | 90-100 minutes | Computer with internet access, data projector, display screen, flash drive, Microsoft Office software (PowerPoint and Word), whiteboard, markers | Class assessment through questions, final exam |
| 8 | Giardia and Trichomonas | 1. Describe the morphology of different stages of Giardia lamblia<br>2. Explain clinical symptoms of giardiasis<br>3. State diagnostic methods for Giardia<br>4. Describe the morphological features of | Cognitive | Memorization, Lecture, Q&A | 90-100 minutes | Computer with internet access, data projector, display screen, flash drive, Microsoft Office software (PowerPoint and Word), whiteboard, markers | Class assessment through questions, final exam |

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| | | Trichomonas<br>5. State diagnostic methods for Trichomonas vaginalis<br>6. Introduce risk groups for trichomoniasis and prevention methods | | | | | |
| 9 | Cryptosporidium, Isospora, Cyclospora, and Sarcocystis | 1. Describe the morphological features of Cryptosporidium, Isospora, Sarcocystis, and Cyclospora<br>2. Explain the evolutionary process of intestinal coccidia<br>3. State diagnostic methods for intestinal coccidia<br>4. Describe clinical symptoms of human coccidiosis separately<br>5. Explain treatment and prevention | Cognitive | Memorization, Lecture, Q&A | 90-100 minutes | Computer with internet access, data projector, display screen, flash drive, Microsoft Office software (PowerPoint and Word), whiteboard, markers | Class assessment through questions, final exam |

## Notes:

- Each session is designed to last approximately 90-100 minutes.
- The teaching methods primarily include lectures, question and answer sessions, and in some cases, flipped classroom techniques.
- Evaluation is conducted through class assessments and final exams.

## Grading Scheme

| Type of Assessment | Assessment Tools[1] | Points out of Total |
|---|---|---|
| Class Attendance and Participation | Short answer questions, Multiple choice questions, Fill-in-the-blank questions | 2 |
| Final Exam | Multiple choice exam, Short answer exam, Matching questions | 18 |
| Total | | 20 |

## Reference


1. Neva FA, Brown HW. Basic clinical parasitology. Appleton & Lange; 1994.
.2 Markell EK, Voge M. Medical parasitology. Eastbourne, UK; WB Saunders Company; 1981.


[1] **Assessment tools can include items such as descriptive exams, short answer questions, fill-in-the-blank questions, multiple choice questions (MCQs), projects, oral exams, and more.**