

SYLLABUS

Course Code	Course Num.	Course Name	Credit Hours	Lec.	Lab.	Tut.	Private study	Pre-requisites	Course Level	Teaching Language
BIO	343	Parasitology	3	2	2	0	5	242 Bio	5	English

A. Course Description

The lectures for this course will provide you with an introduction to the general biology of the parasitic protozoans, helminths, and arthropods of humans and domestic animals. Lectures will emphasize the morphology, form and function, life cycles, symptomatology, and pathogenesis of representative taxa from these major parasitic groups. This information will be useful to you when you study animal and protozoan parasites in the laboratory.

B. Course Outcomes

At the end of this course the student will be able:

1. To develop an understanding of and appreciation for the nature of parasitic associations.
2. To develop an understanding of the terminology used in parasitology.
3. To understand the ecology and life cycles of a variety of host-parasite associations.
4. To develop an understanding of the modifications (physiological, morphological, and behavioural) needed to assume a parasitic lifestyle.

C. References:

Required Textbook

- Ruth Leventhal and Russell F. Cheadle (2011) Medical Parasitology. A self-instructional text (6th edition) X. F.A. Davis Co., Philadelphia ISBN: 080362543.
- Roberts &Janvy. Foundations of Parasitology, 8th edition, (2008). ISBN-13: 978-0073028279.2015.
- Practical guide to diagnostic parasitology (2nd edition) American Society for Microbiology, Washington DC, USA.ISBN: 1555814573.

Other references:

- Atlas of Human Parasitology (5th edition) ISBN: 0891891676 American Society for Clinical Pathology, Chicago, U.S.A. • Lynne S. Garcia (2006)

Course Website: Google Classroom Webpage: <http://www.imamm.org/>

D. Topics Outline

D1. Lectures Topics

- **Course Introduction:** Grading; significance of parasitism in world affairs; general principles and concepts; transmission; factors influencing parasitism; outcomes and implications of parasitism.
- **Outline of “areas of responsibility” for selected groups of parasites.**
- **Introduction to the protozoa:** Terminology, structures, major life cycle events, and systematics.
- **Amoebae:** General, structure, life history Amebiasis; course of infection, pathology, treatment and prognosis; Epidemiology of intestinal amoebae; Diagnosis: various techniques.
- **Flagellates (intestinal and urogenital):** General, structure, life history.
- **Hemoflagellates of humans:** General, structure and life history Leishmania; Kala azar, cutaneous and mucocutaneous; Trypanosomes: trypanosomiasis & world affairs, African and American trypanosomiasis.
- **Apicomplexa:** General, anatomy, structure, life history; General Coccidiosis: economic impact in animals, role as human pathogens Toxoplasma; Eimeria & Cryptosporidium: epidemiology and course of infection.
- **Plasmodium:** General, life history and course of infection; Malaria: pathology, symptoms, treatment and prognosis Malaria and human affairs, Current research on malarial control, Malaria and the genetics of resistance.
- **Introduction to Trematoda:** General: Adult anatomy, reproductive biology, life cycles and development.
- **Schistosomes:** General, course of infection, histopathology, treatment and prognosis; schistosomiasis and human affairs: antigenic mimicry, Ecological models: approaches to parasite control; Cercarial dermatitis.
- **Other Trematodes:** Liver flukes, life histories, epidemiology, and pathology; Lung flukes: life histories, epidemiology and pathology.
- **Cestodes:** General, life history, patterns among cestodes; Pseudophyllidea of humans: dibothriocephaliasis and sparganosis; Cyclophyllidea of humans: Taenia and Echinococcus, Larval tapeworms: human disease.
- **Nematodes:** Enterobia, clinical manifestations, treatment, prognosis, parasitism & human institutions; Trichinella: course of infection, diagnosis, treatment, epidemiology, moral implications; Intestinal nematodes of humans: the diseases, intestinal nematodes and human nutrition; Hookworm disease; Filariasis: course of infection, pathology, treatment and control.
- **Parasitism and World Affairs;** Molecular techniques in control and prevention of parasitic disease; Why are there no vaccines?
- **General Revision.**

D2. Laboratories Topics

- Discussion of major course project & lab requirements.
- Protozoa – Flagellates.
- Protozoa - Amoebas, myxozoa, ciliates.
- Protozoa - Plasmodium spp.
- Hemoflagellates.
- Apicomplexa: Coccidia, gregarines and Plasmodium.
- Platyhelminthes: Trematoda.
- Platyhelminthes - Monogenea and Digenea.
- Nematoda.
- Acanthocephala and Arthropods.
- General revision

E. Office Hours

Office hours give students the opportunity to ask in-depth questions and to explore points of confusion or interest that cannot be fully addressed in class.

F. Exams & Grading System

The semi-official dates of the exams for this course are:

- **Midterm 1:** 6th or 7th week.
- **Midterm 2:** 11th or 12th week.
- **Quizzes & Homework:** During the semester.
- **Lab exam:** 15th week.
- **Final Exam:** 16th week.

Your course grade will be based on your semester work as follows:

Midterm 1: 15 %	Midterm 2: 15 %	Lab exam: 20 %	Final Exam: 40 %
Quizzes, Homework, Attendance & Participation: 10 %			

The grading distribution:

A+	A	B+	B	C+	C	D+	D	F
[95, 100]	[90, 95]	[85, 90]	[80, 85]	[75, 80]	[70, 75]	[65, 70]	[60, 65]	[0, 60]

G. Student Workload

#	Teaching/Learning activities	Contact hours	Frequency	Total contact hours	Self-study hours	Total self-study hours	Student learning time
5	Lecture	2	15	30	2	30	60
2	Tutorial	0	0	0	0	0	0
0	Lab\practical	2	15	30	1	15	45
5	Homework	0	4	0	2	8	8
4	Quiz	0.5	2	1	1	2	3
6	Midterm	1.5	2	3	5	10	13
7	Final Exam	2	1	2	12	12	14
Total				66		77	143

The independent self-study is approximately 5 hours per week.

H. Student Attendance/Absence

Only three situations will be considered as possible excused absences:

- Occurrence of a birth or death in the immediate family will be excused. (“Immediate family” is defined by the University as spouse, grandparents, parents, brother, or sister).
- Severe illness in which a student is under the care of a doctor and physically unable to attend class will be excused. Students are not excused for a doctor's appointment. Do not make appointments that conflict with rehearsals. Notes from the University Health Center will be accepted.

[Executive Rules for Study Regulations and Exams](#)

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