PARASITOLOGY
BIOL 5407 - 4 credits
Texas A&M University San Antonio, Program of Biology
Fall 2025 Syllabus

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Office hours*: TBD – will post by second week
*Walk-in office hours may be subject to cancellation without notice

Class Meeting Times and Location(s):

Lecture: TR 3:30-4:45 STEM 231
Labs:

- Section 01L – Tuesdays 11:00-1:45 STEM 371 – Instructor is Sarah Palmeri
- Section 02L – Thursdays 11:00-1:45 STEM 371 - Instructor is Sarah Palmeri

Textbook for Lecture and Lab - ***FREE ONLINE as a PDF*:** Link will be on blackboard
Foundations of Parasitology 9th Edition.
Larry Roberts, John Janovy, and Steve Nadler
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Other Required Materials:

- Access to the University LibGuide, which has appropriate links that I have approved for additional information. Link will be on Blackboard
- On-Line Components
  - Lectures will be posted on Blackboard associated with lectures
  - Announcements regarding lectures or labs will be posted on Blackboard
  - Grades for individual assignments/labs etc… will be posted on Blackboard as we go along.
- University laboratory safety agreement – SIGNED by Friday Sept. 5th.
- Parasitology Notebook (see below under course content)

Recommended Materials:

- If you have a smart phone, iphone, ipad, SMALL laptop, or any other small portable device that has internet access, bringing it to lab with you will greatly enhance your laboratory experience. I will talk more about this on the first day of lab.

Catalog Description and Prerequisites:

BIOL 5407 Graduate Parasitology
Credits: 4 (3-3-0) Introduction to parasitism with special reference to human and other vertebrate hosts. With laboratory section.

Learning objectives

1) Students will be able to understand the complex life cycles of the economically and medically important parasites that infect humans and animals.
2) Student will become familiar with the concepts of epidemiology of parasitic diseases
3) Student will become familiar with the ecological interactions of parasites and their hosts
4) Student will learn how to visually identify parasitic specimens using microscopes
5) Students will learn how to make scientific drawings of specimens observed under a microscope
6) Students will learn how to keep a clean, organized, and informative study notebook
7) Students will learn how to work as a group to solve a single problem using the information from lecture and lab
8) Students will learn responsibility and accountability for what they learn

Course Content

LECTURE & LAB (they work hand in hand)

Parasitology Notebook – (175 points: 100 for species profiles, 75 for drawings)

- You will need to purchase
  - a sturdy three ring binder - 2" rings
  - Dividers with tabs
- What will be included in this notebook?
  - **Species Profiles:** a 9-point summary for each species listed in the schedule. I will provide an example on which to model your species profiles. Your species profiles must be **handwritten** on the forms I have posted online.
  - **Lab drawings** - This notebook will also serve as a lab notebook in which you will save your drawings of the specimens you observe in lab.
- When are these components due?
  - Species profiles are due prior to each exam (see details below)
  - Drawings will be due prior to each practical (see details below)

4 Regular Exams – (125 points each) = 500 total

- Exams are designed to be taken closed book and as a group of 3 - For each exam you will be assigned to a new group on the day of the exam.
- Your "ticket" to working with a group is by
  - Missing no more than 1 class from one exam to the next
  - Bringing your completed **species profiles** to class on exam day to turn in to me before the exam starts.
  - If you say it is complete and you take the exam as a group, and then I find that it is not complete when I grade it, you will automatically receive only 50% of the score earned by your group.
- My purpose for the "species profile ticket" is to ensure that those of you who are participating in the group exam have done your work and that all of you are well-prepared.
- You will also decide whether your team members pulled their weight:

- **Post-exam form:** If both team members give you a negative rating, you will earn only 50% of the score earned by your team, if one of the two give you a negative rating, you will earn only 75% of the score earned by your team.
- **How does this affect your next exam?** If you received a negative rating on your previous exam, you will be allowed to take the next exam as a group, but if you get another negative review, you will have to take the remainder of the exams on your own.

1 Final Exam – Cumulative – 150 points

- This exam will be an individual exam – no groups
- This exam will be open-notebook only, no text book or power-points, so make sure your notebook with your species profiles is well organized and complete

9 Laboratory Exercises – (10 points for daily participation at each) = 80 points (you can miss one without penalty)

- In the laboratory you will be required to:
  - Attend and stay the full period, if you leave early, you will receive only 5 of the 10 points.
  - Make scientific drawings of your specimens
  - Include these drawings in your notebook.
  - The drawings will account for ½ of your quarterly notebook grade (see Parasitology Notebook above).

3 Laboratory Practicals (50 points each)

- Each lab practical is scheduled to begin at 12:45pm
- There will be approximately 24 microscope stations (2pts each) with an identification question and a concept question.
- You will get 1 min 30 seconds at each station and then you must move to the next.
- ***Attendance is mandatory – there will be no provisions to make up this exam.***
- Species profiles are due upon entrance into the practical exam

1 Graduate Mini-literature Review (50 pointes)

- Work with me, your lecture instructor, to discuss your current area of research for your MS project to determine a parasite that is either found within your organism(s) of study, associated with the same ecology as your study, or uses similar tools to those you use in your MS study.
- Once we discuss, you will finalize a parasite within your system and conduct a mini literature review and present your paper to the undergraduates in the class.
- Details of the literature review will be shared in a formal assignment document.

POLICIES:

Dos & Do Nots

- Do come to class regularly and on time
- Do take notes on the power point print outs of my lectures
- **Do take your species profiles seriously**
- Do ask questions in class
- Do seek out help from me and your peers
- Do NOT have your cell phone out during class (except in Lab)
- Do NOT check social media sites on your laptop during my lecture feigning that you are taking

notes

- Do NOT come in late and ask to be caught up
- Do NOT leave early without talking to me prior to class beginning

ATTENDANCE POLICY:

Lecture Attendance: Attendance will be taken daily and will be used to determine whether you can take part in the group exams (you are allowed only 1 missed class prior to each exam). Attendance may also be used at the end of the semester as an additional evaluation of your performance (i.e. if your grade is borderline and you have attended class regularly I will be more inclined to bump you up to the next grade).

If you must miss a class, you are responsible for obtaining what you missed (announcements, class notes, handouts, etc...) from a fellow classmate, not me. In which case make a buddy:

_____

Exam Day Attendance: Mandatory –If you arrive late, you will have to take the exam on your own. (Also, see make-up policy)

Lab Attendance:

- **For every minute you are late, Sarah will take off one point from your daily participation**. If you are 10 minutes late you will not get credit for that day's participation, but we encourage you to come because the material is very important. Sarah will hold herself accountable as well – if she is late she will give everyone a bonus point to your practical for every minute she is late.
- **If you miss more than 3 laboratory periods, you can only make a maximum of 50% of the points available in the lab section – this includes the lab notebooks).**

Lab Practical Attendance: Mandatory (see make-up policy)

MAKE UP POLICIES:

Lecture Exams:

- You may make up a lecture exam only if
  - you contact me within **one** day of the scheduled exam
  - your absence is one approved by TAMUSA policies (illness, death in the family, other immediate-family emergencies). Documentation will be required.
- Make-up exams will have to be taken on your own.

Laboratory:

- Participation points cannot be made-up.
- Because life happens and sometimes the ability to make it to the lab is impossible, you will be allowed to miss one lab without penalty (although you are still responsible for the material).

Laboratory Practicals:

- There will be no provisions for a make-up lab practical as these require more than 2 hours to set up.
- There are no exceptions to this policy.

Grading

Total points for lecture course	**To**tal Points
Exams = 62%	650
Notebooks = 16%	175
Lab Attendance = 8%	80
Lab Practicals = 14%	150
	TOTAL = 1055

Final Grade:

Your overall grade is computed by taking the total points earned divided by the total points offered. Percentages are then computed and grades assigned as follows:

A = 90-100% ....I will *consider* scaling up if you earn an 89.7%, but I will **NOT** scale up for an 89.49% or less

B = 80-89%.....I will *consider* scaling up if you earn an 79.7%, but I will **NOT** scale up for an 79.49% or less

C = 70-79%.....I will *consider* scaling up if you earn an 69.7%, but I will **NOT** scale up for an 69.49% or less

D = 60-69% .....I will *consider* scaling up if you earn an 59.7%, but I will **NOT** scale up for an 59.49% or less

F = below 60%

If the class average at the end of the semester is less than 70%, I will institute a course scale. Therefore, I will not be scaling exams or assignments during the course of the semester. However, throughout the course of the semester, you will be informed of your standing.

EXAM I PARASITES

All introductory chapters are also included in Exam I

Chapter 5 – Trypanosomes

Trypanosoma brucei gambiense
Tryapnosoma brucei rhodesiense
Trypanosoma cruzi

Chapter 5 – Leishmanias

Leishmania tropica and Leishmania major
Leshmania braziliensis
Leishmania donovani

Chapter 6 – Other flagellated protozoans

Chilomastix mesnili
Giardia duodenalis
Trichomonas tenax
Trichomonas vaginalis

EXAM II PARASITES

Chapter 7- Amebas

Entamoeba histolytica
Entamoeba coli
Entamoeba gingivalis
Iodamoeba buetschlii
Naegleria fowleri
Acanthomoeba

Chapter 8 – Coccidian

Eimeria tenella
Toxoplasma gondii
Neospora caninum
Cryptosporidium parvum

Chapter 9 – Plasmodium

Plasmodium vivax
Plasmodium falciparum
Plasmodium ovale
Plasmodium malariae

EXAM III PARASITES

Chapter 16 – Schistosomes

Schistosoma haematobium

Schistosoma mansoni
Schistosoma japonicum

Chapter 17 - Flukes

Fasciola hepatica
Fasciolopsis buski

Chapter 18 - Flukes

Dicrocoelium dendriticum
Paragonius westermani
Chlonorchis sinensis
Heterophys heterophyes

Chapter 21

Diphyllobothrium latum
Taenia saginata
Taenia solium
Echinococcus granulosus
Echinococcus multilocularis
Hymenolepis nana

EXAM IV PARASITES - Nematodes

Chapter 23

Trichuris trichiura
Trichinella spiralis

Chapter 24

Strongyloides stercoralis

Chapter 25

Ancylostoma duodenale
Necator americanus
Angiostrongylus cantonensis

Chapter 26

Ascaris lumbricoides
Toxocara canis
Anisakis

Chapter 27

Enterobius vermicularis

Chapter 28

Gnathostoma spinigerum
Spirocerca lupi

Chapter 29

Wuchereria bancrofti
Brugia malayi
Onchocerca volvulus
Loa loa
Dirofilaria immitis

Chapter 30

Dracunculus medinensis

Chapter 31

Generalized Nematomorph

Chapter 32

No species profile – but know information from Lecture

FINAL EXAM

The final exam will include all parasites covered PLUS the new information we discussed since Exam IV.

DATE	LECTURE	LABORATORY
8/26 – 8/28	How we study parasitology	Microscope training & Scientific Drawing Principles and practice
9/2 – 9/4	Flagellated Protozoa	Flagellated Protozoa
9/9 – 9/11	**EXAM 1 TUESDAY 9/9** Amoeba	The Amoebas
9/16 – 9/18	Amoeba & *Plasmodium*	*Plasmodium*
9/23 – 9/25	Plasmodium	**LAB PRACTICAL 1**
9/30 – 10/2	**EXAM 2 TUESDAY 9/30** Introduction to Platyhelminthes	Trematodes I
10/7 – 10/9	Trematoda	Trematodes II
10/14 – 10/16	(no class Tuesday, recorded lecture) Trematoda & Cestoda	OPEN LAB - maybe
10/21 – 10/23	Cestoda	Cestodes
10/28 – 10/30	**Exam 3 TUESDAY 10/28** Introduction to Nematodes	**LAB PRACTICAL 2**
11/4 - 11/6	Nematodes	Nematodes
11/11 – 11/13	Nematodes	Nematomorphs & Arthropods
11/18 – 11/20	Catch-up day **Exam 4 THURSDAY 11/20**	**LAB PRACTICAL 3**
11/25 – 11/26	NO CLASSES - Thanksgiving	NO CLASSES - Thanksgiving
12/2 – 12/4	Acanthocephala & Arthropoda	No more labs
12/6-12/12	FINAL EXAM 12/11 at 2:00 – 3:50	