

Human Parasitology Lab

01:146:329

Fall 2026

PRE/CO-REQUISITE

Human Parasitology 01:146:328

COURSE OVERVIEW

Infection by parasites is a global human health problem and a major factor contributing to the extreme poverty occurring in many developing countries. The only way to begin to address this worldwide problem is by understanding these organisms. Therefore, the objective of this course is to introduce students to the morphology, developmental life cycle, pathology, and diagnosis of the major eukaryotic parasites of humans. Additionally, it will introduce to students some of the basic techniques used in parasitology and also emphasize scientific communication through the reading and discussion of current scientific papers in parasitology.

LEARNING GOALS

1. Morphological identification of the major human helminth and protozoan parasites.
2. Learn basic techniques in parasitology through hands-on activities and prepared demonstrations.
3. Identify the structure of scientific papers and discuss current research in parasitology.

COURSE INFORMATION

Time & Location:

Section 01: Wednesdays, 8:30 - 11:30 AM, Nelson Hall (Busch): B130

Section 02: Wednesdays, 12:10 - 3:10 PM, Nelson Hall (Busch): B130

Teaching Assistant:

Erin McHale

emm308@scarletmail.rutgers.edu

Office hours by arrangement; contact Erin to schedule a time.

Lab manual:

The manual is required and will be distributed in lab.

Website: <https://canvas.rutgers.edu/>

Announcements, assignments, quizzes, grades, and other material will be posted throughout the semester. It is your responsibility to check Canvas frequently to ensure that you do not miss any assigned work or announcements.

LAB & EXAM SCHEDULE

Lab	Date	Topic
1	Wed, 9/9	Adult Trematodes Paper: How to Read a Scientific Article Technique: Scientific Communication
2	Wed, 9/16	Larval Trematodes Paper: Variation in Trematode Infection in Snails Associated with Land Cover and Water Chemistry in the Central Illinois River Watershed Technique: Light microscopy (Low power)
3	Wed, 9/23	Adult and Larval Cestodes Paper: Prevalence of cysticercosis in Estonian pigs and cattle Technique: Field work
4	Wed, 9/30	Intestinal Nematodes Paper: Gastrointestinal Parasites of Ecuadorian Mantled Howler Monkeys (<i>Alouatta palliata aequatorialis</i>) Based on Fecal Analysis Technique: Fecal flotation
5	Wed, 10/7	Tissue Nematodes Paper: Low transmission of <i>Wuchereria bancrofti</i> in cross-border districts of Cote d'Ivoire: A great step towards lymphatic filariasis elimination in West Africa Technique: Library skills
	Wed, 10/14	Midterm Exam (Labs 1 – 5) & Presentation

Lab	Date	Topic
6	Wed, 10/21	Amoebae Papers: Antiparasitic Activity of Auranofin against Pathogenic <i>Naegleria fowleri</i>. <i>Naegleria fowleri</i> (NEJM) Technique: Light microscopy (High power)
7	Wed, 10/28	Flagellates and Ciliates Paper: Molecular identification of <i>Giardia intestinalis</i> in two cities of the Colombian Caribbean Coast Technique: PCR and gel electrophoresis
8	Wed, 11/4	<i>Trypanosoma</i> and <i>Leishmania</i> Paper: <i>Leishmania</i> infection: painful or painless? Technique: Blood smear
9	Wed, 11/11	<i>Plasmodium</i> and <i>Toxoplasma</i> Paper: Malaria cross-sectional surveys identified asymptomatic infections of <i>Plasmodium falciparum</i>, <i>Plasmodium vivax</i> and <i>Plasmodium knowlesi</i> in Surat Thani, a southern province of Thailand Technique: Career development
10	Wed, 11/18	Arthropods Paper: Do tsetse flies only feed on blood? Technique: ELISA
	Wed, 12/2	Final Exam (Labs 6 – 10)

ASSESSMENTS

- **Attendance**

It is expected that students will attend lab each week. To earn full points for attendance, students must arrive on time and remain through the completion of the lab. Missing three or more labs will result in failure of the course.

- **Quizzes**

Each week, at the start of the lab period, there will be a quiz. It will cover the previous week's lab and include information from the slide identifications, technique, and scientific paper that were covered in that lab. The quizzes will be administered through Canvas.

- **Paper discussions**

Each week, a scientific paper will be posted on Canvas and during each lab, there will be a class discussion of the paper that was assigned for that week. It is expected that students have read the paper and make meaningful contributions to the discussion.

- **Techniques**

Each week, we will focus on a technique that is relevant in the field of parasitology. This component of the course will involve presentations, hands-on activities, and guest speakers. It is expected that students demonstrate competency in these techniques.

- **Lab manual**

During each lab, students will view prepared microscope slides of parasites and associated information. It is expected that, by the end of the lab period, all of the questions in the manual for that lab have been completed.

- **Exams**

The midterm exam will include all material (identifications, techniques, and scientific papers) covered in labs 1 through 5 and the final exam will include all material in labs 6 through 10. The exams will be administered through Canvas.

- **Presentation**

During lab 4, the class will be divided into groups and each group assigned a paper. Then, on the same day as the midterm exam, each group will do a short presentation on the paper. Details and expectations will be provided during lab 4.

POINTS DISTRIBUTION

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Exam	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Exam
Attendance	5	5	5	5	5	-	5	5	5	5	5	-
Quiz	15	15	15	15	15	-	15	15	15	15	15	-
Paper discussion	10	10	10	10	10	-	10	10	10	10	10	-
Technique	5	5	5	5	5	-	5	5	5	5	5	-
Lab manual	5	5	5	5	5	-	5	5	5	5	5	-
Exams	-	-	-	-	-	50	-	-	-	-	-	50
Presentation	-	-	-	-	-	25	-	-	-	-	-	-
TOTAL	40	40	40	40	40	75	40	40	40	40	40	50

OTHER ASSESSMENT INFORMATION

- Final course grades will be determined by points accumulated on all of the assessments. The total possible points for the semester is 525.

Grades will be based on the following distribution.

Final grade	Points
A	472 – 525
B+	446 – 471
B	420 – 445
C+	393 – 419
C	367 – 392
D	315 – 366
F	0 – 314

- Any requests for grades to be curved, “bumped up”, or altered in any other way will be ignored.
- Extra Credit: None. No exceptions. Any requests for extra credit will be ignored.
- Academic Integrity Policy
Dishonesty will not be tolerated in this course. Please see the Rutgers policy at <http://nbacademicintegrity.rutgers.edu/home-2/academic-integrity-policy/>

STUDENT-WELLNESS SERVICES

College is an exciting time in life but might also be accompanied by stress and anxiety. If you need help with mental health issues or any other difficulties, there are services available at the University to help.

- Student Success Essentials: <https://success.rutgers.edu>
- Student Support Services: <https://www.rutgers.edu/academics/student-support>
- The Learning Centers: <https://rlc.rutgers.edu/>
- Rutgers Libraries: <https://www.libraries.rutgers.edu/>
- Bias Incident Reporting: <https://studentaffairs.rutgers.edu/bias-incident-reporting>
- Dean of Students – Student Support Office:
<https://success.rutgers.edu/resource/dean-students-student-support-office>
- Office of Veteran and Military Programs and Services:
<https://veterans.rutgers.edu>
- Student Health Services: <http://health.rutgers.edu/>
- Counseling, Alcohol and Other Drug Assistance Program & Psychiatric Services (CAPS): <http://health.rutgers.edu/medical-counseling-services/counseling/>
- UWill: free immediate access to teletherapy; you can choose a therapist based on your preferences including issue, gender, language, ethnicity.
<http://health.rutgers.edu/uwill/>
- Office for Violence Prevention and Victim Assistance: www.vpva.rutgers.edu/
- Office of Disability Services: <https://ods.rutgers.edu/>
- Basic Needs Assistance (food pantry, housing, and other essentials):
<https://ruoffcampus.rutgers.edu/basic-needs>