



Course Syllabus  
Animal Parasitology  
BIOL 4524  
Lecture: MWF 10:00-10:50 AM BO 248  
Lab: R 2:00-4:50 PM BO 207  
Fall 2025

### **Contact Information**

Instructor: Dr. Mike Shipley  
Office: Bolin Science Hall Room 224L  
Office hours: MTWRF 11:00AM – 12:00PM; or by appointment  
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### **Required Text**

Roberts, Larry S., and Janovy, John, Jr. 2013. Schmidt & Roberts' Foundations of Parasitology, 9<sup>th</sup> ed.; McGraw Hill, Boston, MA.

### **Goals and Objectives**

Animal Parasitology is a course designed to introduce the host-parasite relationship among representative groups of animals, with emphasis on taxonomic, ecological and preventive aspects. Particular attention will be paid to medical and veterinary implications of parasites. Option A (Molecular-Cellular) and Option B (Organismal) Biology majors may receive upper-level animal biology credit with this course. Option C (Pre-Professional) Biology majors will receive upper-level biology credit, and will benefit from the medical and veterinary slant presented in the material. Students seeking the Master's Degree in Biology may take BIOL 4524 for graduate credit. Students will be able to apply this information in all pre-professional areas as well as in nursing, clinical lab science, or graduate school.

### **Prerequisites**

One year (8 credit hours) of biology.

### **Student Expectations**

Students are expected to attend all scheduled class meetings and are expected to be on time. Class attendance is crucial for maximum performance. Excessive absences may result in a student dropped from the course. Students should refer to the current MSU Handbook and Activities Calendar for university policy on academic dishonesty, class attendance, student rights and activities.

## Detailed Lecture Schedule

| Date                  | Topic  | Chapter |
|-----------------------|--|---------|
| Mon Aug 25            | Introduction to Parasitology                               | 1       |
| Wed Aug 27            | Basic Principles and Concepts                              | 2       |
| Fri Aug 29            | Basic Principles and Concepts                              | 3       |
| Mon Sept 1            | <b>Labor Day – No Class</b>                                |         |
| Wed Sept 3            | Parasitic Protozoa: Form and Classification                | 4       |
| Fri Sept 5            | Kinetoplasta: Trypanosomes                                 | 5       |
| Mon Sept 8            | Kinetoplasta - Trypanosomes;<br>Other Flagellated Protozoa | 5-6     |
| Wed Sept 10           | Amebas   | 7       |
| Fri Sept 12           | Amebas   | 7       |
| Mon Sept 15           | Apicomplexa: Gregarines & Coccidia                         | 8       |
| Wed Sept 17           | Apicomplexa: Malaria Organisms                             | 9       |
| Fri Sept 19           | Apicomplexa: Malaria Organisms                             | 9       |
| Mon Sept 22           | Ciliated Protozoans  | 10      |
| Wed Sept 24           | Introduction to Platyhelminthes                            | 13      |
| Fri Sept 26           | <b>EXAM 1</b>  |         |
| Mon Sept 29           | Trematoda: Digeneans                                       | 14-15   |
| Wed Oct 1             | Trematoda: Schistosoma                                     | 16      |
| Fri Oct 3             | Trematoda: Echinostomatiforms                              | 17      |
| Mon Oct 6             | Trematoda: Opisthorchiforms                                | 18      |
| Wed Oct 8             | Cestoidea - Tapeworms                                      | 20      |
| Fri Oct 10            | Cestoidea - Tapeworms                                      | 21      |
| Mon Oct 13            | Cestoidea - Tapeworms                                      | 21      |
| Wed Oct 15            | Introduction to Nematoda                                   | 22      |
| Fri Oct 17            | Nematoda - Trichinellida                                   | 23      |
| Mon Oct 20            | Nematoda - Hookworms                                       | 24      |
| Wed Oct 22            | Nematoda - Hookworms                                       | 25      |
| Fri Oct 24            | Nematoda - Ascarids  | 26      |
| Mon Oct 27            | Nematoda - Pinworms  | 27-28   |
| Wed Oct 29            | Nematoda – Filarial Worms                                  | 29      |
| Fri Oct 31            | Nematoda – Dracunculids                                    | 30      |
| Mon Nov 3             | Introduction to Arthropoda                                 | 33      |
| Wed Nov 5             | <b>EXAM 2</b>  |         |
| Fri Nov 7             | Phthiraptera   | 36      |
| Mon Nov 10            | Hemiptera  | 37      |
| Wed Nov 12            | Siphonaptera   | 38      |
| Fri Nov 14            | Siphonaptera   | 38      |
| Mon Nov 17            | Diptera  | 39      |
| Wed Nov 19            | Diptera  | 39      |
| Fri Nov 21            | Diptera  | 39      |
| Mon Nov 24            | Parasitic Arachnids  | 41      |
| Wed Nov 26            | <b>Thanksgiving Break – No Class</b>                       |         |
| Fri Nov 28            | <b>Thanksgiving Break – No Class</b>                       |         |
| Mon Dec 1             | Parasitic Arachnids  | 41      |
| Wed Dec 3             | Parasitic Arachnids  | 41      |
| Fri Dec 5             | Open   |         |
| Wed Dec 10 (10:30 am) | <b>FINAL EXAM (EXAM 3)</b>                                 |         |

### Detailed Lab Schedule

| Date             | Topic                                   | Assigned Slides       |
|------------------|---|-----------------------|
| Thursday Aug 28  | Slide Box Check Out                     |                       |
| Thursday Sept 4  | Trypanosomes; Flagellates               | 4-5, 7-8, 95          |
| Thursday Sept 11 | Amebas; Apicomplexa                     | 1-2; 15-16; 93-94; 96 |
| Thursday Sept 18 | <i>Plasmodium</i> ; Ciliates            | 6; 9-14               |
| Thursday Sept 25 | Schistosomes                            | 17-30, 97             |
| Thursday Oct 2   | <i>Fasciola</i> ; <i>Clonorchis</i>     | 31-36                 |
| Thursday Oct 9   | Tapeworms                               | 37-46                 |
| Thursday Oct 16  | <b>Midterm Exam</b>                     |                       |
| Thursday Oct 23  | Trichinellids; Hookworms                | 47-61                 |
| Thursday Oct 30  | <i>Ascaris</i> ; Pinworms; Microfilaria | 62-67; 98             |
| Thursday Nov 6   | Lice; Bedbug; Fleas                     | 76-85                 |
| Thursday Nov 13  | Mosquitos; Bot Fly                      | 68-75                 |
| Thursday Nov 20  | Ticks; Mite                             | 86-82; 99             |
| Thursday Nov 27  | <b>Thanksgiving Break – No Lab</b>      |                       |
| Thursday Dec 4   | <b>Final Exam</b>                       |                       |

### Grade Determination

The major lecture exams (4) will cover material presented in the lecture and any assigned readings in your text or additional sources. The grade for this class will be based on the major lecture exams, a laboratory midterm & final exam, and case studies. The breakdown for the grade is as follows:

| Category                 | Percent of Grade | Grade Range    | Letter Grade |
|--------------------------|------------------|----------------|--------------|
| <b>Lecture Exams (3)</b> | <b>60%</b>       | <b>90-100</b>  | <b>A</b>     |
| <b>Lab Exams (2)</b>     | <b>28%</b>       | <b>80-89</b>   | <b>B</b>     |
| <b>Case Studies (5)</b>  | <b>12%</b>       | <b>70-79</b>   | <b>C</b>     |
|                          |                  | <b>60-69</b>   | <b>D</b>     |
|                          |                  | <b>&lt; 60</b> | <b>F</b>     |

### Case Studies and Lab Grade

There will be 5 case studies assigned during the semester on topics of Parasitology, each in a separate handout, with light discussion during the class period in which they are turned in. Case studies are due one week after they are assigned.

The laboratory exercises will consist of learning the identifying characteristics, classification, and life cycles of parasites from approximately 100 prepared slides. Two exams will be given in the laboratory; check the above schedule. There is no lab manual to purchase – handouts will be given.

### Campus Carry

Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to [Campus Carry Rules and Policies](#). If you have questions or concerns, please contact MSU Chief of Police Patrick Coggins at [patrick.coggins@mwsu.edu](mailto:patrick.coggins@mwsu.edu).