Parasitology
BIO 4441/BIO 5441

Lecture: MWF 11:00-11:50am CAV 019
Lab: M/W 2:00-5:00 pm, CAV 018
Final Exam: Monday, May 4, 10:30am-12:30pm, CAV 123

Instructor Information
Dr. Nicholas J. Negovetich
Office: CAV 002B
Phone: x6646
Email: nicholas.negovetich@angelo.edu
Office Hours: M-F 9:00-11:00am; Other times by appointment

Course Description
Introduction to the parasites of man and animal with a survey of protozoan, helminth, and arthropod parasites from the standpoint of morphology, taxonomy, life histories, and host-parasite associations, integrated with examples spanning a broad range of topics including parasite community structure, parasite biogeography, and the evolution of host-parasite relationships.

Learning Outcomes
1. Gain a basic understanding of the subject (e.g., factual knowledge, principles, theories)
   - The student will be able to define parasitological terms, diagram life cycles of well-known parasites, and describe pathology caused by these parasites
2. Developing specific skills, competencies, and points of view needed by professionals in the field
   - The student will be able to identify well-known parasites in a laboratory setting
   - The student will be able to identify morphological features of common parasites

Text

Course Structure
Parasitology is the study of parasites. This field includes every aspect of the parasite including, but not limited to, the genetics, biochemistry, immunology, ecology, and evolution of the host and parasite. To simplify the complexity of parasitology, the course is divided into 4 discreet units based on the broad category of parasites: Protozoa, Platyhelminthes, Nematoda, and Other. The lecture and lab will consist of a mixture of information from the taxonomy chapters (3-11) and concepts from the ecology and evolution chapters (12-17).

Attendance
Attendance is expected for the lecture portion of the course, and it is required for the lab portion (10 percentage points deduction of the lab grade for each unexcused absence). You are responsible for all material presented in lecture and in the reading assignments. Instructor notes will NOT be provided.

Quizzes and Exams
The learning outcomes will be assessed using quizzes and exams. There will be a minimum of one online quiz per week. These quizzes will be comprehensive for each unit of the course. Three, lecture exams will be given at the end of each unit. This course will also have a comprehensive final exam. More information regarding the format of the exams will be provided at a later date.
Make-up Lecture Exams and Quizzes
I understand that special circumstances beyond one's control can result in the inability to attend class when an exam or quiz is given. For these circumstances, a make-up exam or quiz may be scheduled provided that I was notified one week prior to the exam/quiz for a scheduled absence, or before the end of the exam/quiz (via email or phone call) when the absence was unexpected. Online quizzes have a strict due date and time. Quizzes taken after the due date but before the next exam will be marked as late. There is no penalty for the first late quiz, but each subsequent quiz will receive a 10% reduction in the grade. Missed quizzes cannot be taken for credit on or beyond the date of the lecture exam.

Point Breakdown
The course consists of a lecture (75% of final grade) and lab (25% of final grade). Final grades will be assigned as follows: A=100-90%, B=89-80%, C=79-70%, D=69-60%, F=59% or lower. Standard rounding methods will be used (round up for 0.5 or higher). The percentage breakdown for each portion of the course is listed in the table below:

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>15%</td>
</tr>
<tr>
<td>Exams (20%, 25%, 25%)</td>
<td>70%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>15%</td>
</tr>
</tbody>
</table>

Grade Contract
A large amount of material will be covered throughout the semester. The quizzes will be short (~10-20 min), but they are designed to make the students continuously review the material in preparation for the unit exams. The lowest quiz grade (based on percentage) will be dropped. As such, a missed quiz, which would be recorded as a zero, would be dropped from the calculation of the final grade. The lowest exam grade will not be dropped. Instead, I will allow replacement of the lowest exam grade with the grade on the final exam. For example, if the lowest exam grade was 60% but an 85% was scored on the final, then I will replace the 60% with an 85%. Grade replacement will only be made following a verbal request by the student.

Graduate and Honors Students
These individuals are required to complete an extra project (presentation, review article, etc.). The point breakdown for lecture and lab remain unchanged. However, the final grade will be modified based on the quality and completeness of the work. Completing the project will result in a C for the project, which will reduce the final course grade by 10 percentage points (equivalent to a letter grade deduction). Receiving a B on the project will lower the final course grade by 5 percentage points. The final course grade will be unchanged for all projects that receive an A. To receive an A, the project must be thorough, well organized and designed, and demonstrate substantial effort outside of the class. Failure to complete the project will not result in a grade reduction and the student will receive non-honors credit for this course.

Graduate students will create and deliver a full lecture over a topic approved by me. This lecture will be in the place of a regularly scheduled class lecture. The topic will be one that receives cursory coverage or no coverage by me. This will be the time when graduate students will gain experience at writing a lecture. These lectures will be presented during the final 2 weeks of the course. Graduate students who do not complete the project will receive an F for the course.

Honors students have the choice of extra projects. The first option is lab based and requires the survey for parasites of a single host species. Sample sizes, field sites, and collecting methods will be discussed prior to the start of the project. The student will be required to collect, preserve, and identify the parasites that are collected during the survey. A brief report (written in the format of a journal article) will summarize the results of the project. The second option is an in-depth literature review of a specific topic relevant to parasitology. The topic must be approved by me, and must be focused enough to generate an article that's worthy of publication in a journal. The review article is 20-30 pages (11 pt serif
font, 1 inch margins, double spaced; page count excludes figures, tables, and works cited), and must follow the guidelines for the Journal of Parasitology.

**Academic Dishonesty**
Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is contained in the [Angelo State University Student Handbook](#) and the [Angelo State University Catalog](#). Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject to disciplinary action and possible expulsion from ASU. The College of Science and Engineering adheres to the university’s [Statement of Academic Integrity](#).

**Special Accommodations**
Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. If any member of the class feels that they have a disability and needs special accommodations, then please contact an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the [Student Disability Services website](#). Remember, it is your responsibility to initiate such a request by contacting an employee of the Office of Student Affairs.

**Religious Holy Days**
A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.

**Title IX**
The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU’s Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-486-6357
[ michelle.boone@angelo.edu](mailto:michelle.boone@angelo.edu)

You may also file a report online 24/7 at [http://www.angelo.edu/incident-form](http://www.angelo.edu/incident-form). If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345. For more information about Title IX in general you may visit [https://www.angelo.edu/title-ix](https://www.angelo.edu/title-ix).

**Technology in the Classroom**
Many students are using laptops and tablets to take notes despite the research that suggests hand-written note taking results in better retention of the lecture material. Using laptops or tablets for note taking is OK in this course as long as the use of this technology is to aid in learning during this course. Using these
devices for other purposes during lecture or lab will not be tolerated. **Cell phone usage is prohibited** (bring a scientific calculator if you need to use a calculator). Being told to put your cell phone and/or other electronic device away will result in a 2-percentage point deduction in your final course grade.

**Schedule Notes**
The book chapters are for the main topic. Concepts and terms from chapters 12-17 could be introduced and used throughout the course.

Exam dates are tentative. Exams will likely be on Friday, with the lab exam on the following Monday. If exam dates change, at least 1 week notice will be given. The announcement will be made in class and posted on blackboard.

**COVID-19 Addendum**
This semester’s class will not follow previous offerings of the course. Due to requirements stipulated by the administration, I am required to record and post lectures. As such, lectures will be mostly powerpoint with a mix of chalkboard diagrams. The lectures will be live streamed to YouTube (URL of the Course Playlist will be posted on Blackboard). I know it’s easy to watch the lectures at home, but I encourage everyone to attend class so that you can participate fully by asking questions about any concepts that may be difficult to comprehend. PowerPoints will not be given because you are expected to take your own notes. Based on several research articles on best-practices in learning, I recommend taking hand-written notes as opposed to typing in a word processor.

Lab lectures will not be recorded. Since we have 2 different lab sections, we will use the lab to investigate the morphology discussed during the course. Slides of various parasites will be available in the lab, and images taken of various slides will be posted. We could also use technology as a learning aid. Examples include using Google Jamboard and Blackboard Collaborate, but others may be introduced during the semester.

As a member of the Texas Tech University System, Angelo State University has adopted the mandatory [Facial Covering Policy](#) to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.
### Class Schedule
This schedule is tentative and subject to change

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Chapter</th>
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</thead>
<tbody>
<tr>
<td>1/25/2021</td>
<td>Introduction; Immunology Review</td>
<td>1-2</td>
</tr>
<tr>
<td>2/01/2021</td>
<td>Platyhelminthes: Digenea and Schistosoma</td>
<td>6</td>
</tr>
<tr>
<td>2/08/2021</td>
<td>Platyhelminthes: Immune responses, Monogenes, Tapeworm Intro</td>
<td>6</td>
</tr>
<tr>
<td>2/15/2021</td>
<td>Platyhelminthes: Diphyllobothrium, Taenia, and Echinococcus</td>
<td>6</td>
</tr>
<tr>
<td>2/22/2021</td>
<td>Platyhelminthes: Life cycle evolution</td>
<td>6</td>
</tr>
<tr>
<td>3/01/2021</td>
<td>Nematoda: Intro, The Trichocephalida</td>
<td>8</td>
</tr>
<tr>
<td>3/08/2021</td>
<td>Nematoda: Hookworms, Ascaris Intro</td>
<td>8</td>
</tr>
<tr>
<td>3/15/2021</td>
<td>Nematoda: Ascaris, Life cycle evolution, Filarial Worms</td>
<td>8</td>
</tr>
<tr>
<td>3/22/2021</td>
<td>Nematoda (Filarial Worms); Acanthocephala</td>
<td>7, 8</td>
</tr>
<tr>
<td>3/29/2021</td>
<td>Nematomorpha; Protozoa: Intro and African Tryps</td>
<td>3</td>
</tr>
<tr>
<td>4/05/2021</td>
<td>American Tryps, Leishmania, Other Flagellates</td>
<td>3</td>
</tr>
<tr>
<td>4/12/2021</td>
<td>Amoeba, Apicomplexa Intro, Gregarines</td>
<td>3</td>
</tr>
<tr>
<td>4/19/2021</td>
<td>Coccidians, Plasmodium</td>
<td>3</td>
</tr>
<tr>
<td>4/26/2021</td>
<td>Ecological Concepts: Terminology and Transmission</td>
<td>12,13,15</td>
</tr>
<tr>
<td>5/03/2021</td>
<td>Transmission Dynamics</td>
<td>14,16</td>
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<tr>
<td>5/10/2021</td>
<td>Final Exam Week</td>
<td></td>
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</tbody>
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**Final Exam: Wednesday, May 12, 10:30am-12:30pm**