Instructors
Ms. Glenda Taton-Allen, B.S., M.S., Microbiology, Immunology and Pathology
Dr. William C. Black IV, Ph.D., Microbiology, Immunology and Pathology

Graduate Teaching Assistant
Nathan Grubaugh, Microbiology, Immunology and Pathology

Texts & Lab Notes (REQUIRED)
3. Marquardt, Demaree and Grieve. 2000. Parasitology and Vector Biology, 2nd Edition. Harcourt /Academic press. Specific chapters included on lecture power point CD; These secondary readings are shown in parentheses (no purchase necessary)
5. Class and laboratory notes for Glenda Taton-Allen
6. Class and laboratory notes for Dr. William C. Black IV

<table>
<thead>
<tr>
<th>Protozoology and Helminthology: Glenda Taton-Allen</th>
<th>Points</th>
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<tbody>
<tr>
<td>LECTURE EXAM #1</td>
<td>90 Points</td>
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<td>LECTURE EXAM #2</td>
<td>60 Points</td>
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<td>LECTURE EXAM #3</td>
<td>90 Points</td>
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LAB:
LAB PRACTICAL                                      | 150 Points |
Parasite Poster                                    | 40 Points  |
Lab Notebook                                        | 2 X 15 Points each | 30 Points |
Parasite Unknowns                                  | 3 X 5 Points each | 15 Points |
Procedures                                         | 2 X 4 Pts; 2 X 5 Pts; 1 X 7 Pts | 25 Points |

500 TOTAL POINTS

Date    Subject                                    Reading Assignment

Week 1
August 20 Introduction (Dr. Black)                 Ch2: 6-21; (Ch1: 1-25)
August 22 Introduction to Parasites/Introduction to Protozoology Ch5: 107-139 (Ch3,4: 37-71)
August 24 Intro to Protozoology - Trypanosoma/Leishmania
Tues lab Intro/Safety/Lab notebook requirements/Movie Poster Assignment
Thurs lab Microscopy/Rumen contents/Immune Response
**Week 2**
August 27  
*Giardia/Trichomonas/Balantium*  
Ch3: 48-65;  
(Ch5,6,9: 73-82; 89-97; 125-130)

August 29  
*Amoeba/Coccidia*  
Ch3: 22-48, 65-66;  
(Ch7,10,12:  
101-113; 135-140; 145-156)

August 31  
*Cryptosporidia/Cyclospora*  
Ch3: 68-73;  
(Ch12: 156-164)

**Tues lab**  
Technique Presentation

**Thurs lab**  
Giardia Fecal Exam/Giardia ELISA;  
Trichomonas culture

**Week 3**
September 3  
LABOR DAY

September 5  
*Toxoplasma/Sarcocystis/Neospora*  
Ch5: 140-150;  
(Ch13: 165-185)

September 7  
*Plasmodium/Babesia/Immune Response*  
Ch 4,5: 79-105, 150-152;  
(Ch14,15: 187-206; 211-220)

**Tues lab**  
Coccidia Movie/Coccidia Fecal Exams

**Thurs lab**  
Cryptosporidium Acid fast/Antigen test

**Week 4**
September 10  
Introduction to Trematodes/*Schistosoma*/Cercarial Dermatitis  
Ch6: 166-167,  
181-196;  
(Ch17,18: 243-255; 257-272)

September 12  
LECTURE EXAM 1: Protozoa

September 14  
*Fasciola/Fasciolopsis/Heterophyes*  
Ch6: 178-181, 168-169, 172-173;  
(Ch19,20: 273-279; 293-296)

**Tues lab**  
Cryptosporidium/Giardia MeriFluor IFA

**Thurs lab**  
Blood Smear prep/stain

Lab Notebook Due

**Week 5**
September 17  
*Clonorchis/Paragonimus*/Introduction to Cestodes  
Ch6: 173-176, 197-202;  
(Ch19,21,22: 282-285; 297-300; 301-315)

September 19  
*Diphyllobothrium/Taenia/Cysticercus*  
Ch7: 207-210, 211-223;  
(Ch23,24: 317-323; 327-334)

September 21  
*Echinococcus/Hymenolepis/Dipylidium*  
Ch7: 224-235;  
(Ch24: 335-345)

**Tues lab**  
Unknown #1

Parasite Posters Due/Poster Presentations

**Thurs lab**  
Parasite Poster Presentations

**Week 6**
September 24  
Introduction to Nematodes  
Ch8: 239-240;  
(Ch25: 349-357)

September 26  
LECTURE EXAM 2: Cestodes and Trematodes

September 28  
*Ancylostoma/Necator/Strongyloides*  
Ch8: 248-261;  
(Ch27,26: 369-380; 359-368)
Tues lab  Poster Presentations
Thurs lab  Unknown #2
Poster Presentations

Week 7
October 1  *Trichinella/Ascaris/Toxocara/Parascaris/Baylisascaris*  Ch 8,9: 305-310, 240-246, 310-312, 316; (Ch36,32: 477-484; 432-443)
October 3  *Trichuris/Strongylus/Enterobius/Oxyuris*  Ch8: 263-266, 246-248, (Ch36,33,28: 484-487; 445-448; 381-386)

Tues lab  Unknown #3
Thurs lab  Knotts/Antigen Heartworm tests;
Lab Notebook Due

Week 8
October 8  *Dirofilaria/Elaephora/Immune Response*  Ch9: 301; (Ch34: 464-471)
October 10  LECTURE EXAM 3: Nematodes

Tues lab  Review
October 11 (Thurs lab)  LAB PRACTICAL EXAM: Protozoa and Helminths

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<th>Medical/Veterinary Entomology - Dr. William C. Black IV</th>
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<tr>
<td>LAB 1  External anatomy</td>
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<td>LAB 2  Internal anatomy</td>
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<td>LAB 4  Mosquito life cycle</td>
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<td>LAB 7  Epidemiology</td>
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<td>LAB 8  Population Biology/Control</td>
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<td>LAB PRACTICAL EXAM</td>
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<td>Final Exam (short answers)</td>
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<td>Essay Questions over reading</td>
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NOTE: Labs are generally due 1 week after they are assigned.  5 points are deducted for each lab period that an assignment is turned in late.

Oct.  12  Overview of Medically Important Arthropods
ESSAY 1 QUESTION HANDED OUT

Week 9
Oct.  15  Biology of Arthropods (Development, Molting)
Oct.  17  Biology of Arthropods (Digestion, Excretion)
Oct.  19  Biology of Arthropods (Respiration, Circulation)
ESSAY 1 DUE (50 Points)
Tuesday Lab  LAB 1: External anatomy of medically important arthropods (Cockroach)
Thursday Lab  LAB 2: Internal anatomy of medically important arthropods (Cockroach)

**Week 10**
- Oct. 22  Biology of Arthropods (Neuroendocrinology)
- Oct. 24  Biology of Arthropods (Reproduction, Diapause)
- Oct. 26  Disease Transmission in Arthropods
- Tuesday Lab  LAB 3: Diptera: Nematocerous identification/
  Start mosquito identification, **LAB 1 DUE**
  LAB 4a: Begin mosquito life cycle exercise
- Thursday Lab  LAB 4b: Mosquito life cycle exercise #2
  Finish Mosquito Identification, **LAB 2 DUE**

**Week 11**
- Oct. 29  Disease Transmission in Arthropods
- Oct. 31  Disease Transmission in Arthropods
- Nov. 2  Mosquito Control
- Tuesday Lab  LAB 4c: Mosquito life cycle exercise #3
  LAB 5: Diptera: Brachycerous/Cyclorrhaphous identification
- Thursday Lab  LAB 4d: Finish mosquito life cycle exercise
  LAB 6: Flea Identification

**Week 12**
- Nov. 5  Mosquito Control
- Nov. 7  Simulidae(Blackflies),Psychodidae(Sandflies)
- Nov. 9  Ceratopogonidae (Biting Midge)/TseTse Flies
- Tuesday Lab  Lab 7: Epidemiology - Reed Frost, MacDonald's Model
  **LAB 4 DUE**
- Thursday Lab  Lab 8: Population biology/control (Computer Lab)

**Week 13**
- Nov. 12  Fleas and flea borne diseases
- Nov. 14  Tick Biology
- Nov. 16  Tick Borne Diseases
- Tuesday Lab  LAB 9: Venomous Arthropods
  **LAB 7 DUE**
- Thursday Lab  LAB 10: Identification of lice, bedbugs, triatominae
  **LAB 8 DUE**

**November 19-23**  THANKSGIVING

**Week 14**
- Nov. 26  Mite Biology/Chiggers - Mite Borne Disease
- Nov. 28  Triatominae and Bedbugs
- Nov. 30  Louse biology/Louse borne disease
- Tuesday Lab  LAB 11: Mite and Tick Identification
- Thursday Lab  LAB 12: Cockroach identification

**Week 15**
- Dec. 3  Louse biology/Louse borne disease
ESSAY 2 QUESTION HANDED OUT
Dec.  5  Louse biology/Louse borne disease
Dec.  7  Review Session
Tuesday Lab  REVIEW
Thursday Lab  LAB PRACTICAL EXAM

Wednesday, Dec. 12  FINAL EXAM (100 points)
ESSAY 2 DUE AT BEGINNING OF EXAM (50 points)
7:30-9:30 a.m. in lecture hall

Grading Rubric
89.5-100%   =  A
79.5-89.4%  =  B
69.5-79.4%  =  C
59.5-69.4%  =  D
<59.5%        =  F

NOTE: This class is NOT curved. You start the semester with zero points and therefore begin to earn points with the first graded assignment. There are a total of 1000 points that can be earned. You will be graded according to the total points you have earned by the end of the semester.

Be aware this is a 5-credit upper division Microbiology course that requires approximately 2 hours of study/lab time for every 1 hour of time spent in class/lab. Since we will be spending approximately 6.5 hours in class/lab per week, you should be prepared to spend about 13.5-14 hours per week on this class. This may include extra time spent in lab completing the assignments or reviewing material already presented.

Laboratory: You are expected to come to lab with all pre-lab assignments completed. There is substantial material covered in every lab, and you will not have time during the lab to complete everything unless you are prepared and well organized.

Since we will be working with BSL-1 and BSL-2 organisms in the lab, you are not permitted to participate in any laboratory procedure or procure points for those assignments until you have taken the lab safety quiz and have signed the lab compliance form. Make-up labs are offered only to students with instructor approved excuses, and make-up labs must be set up with the GTA. Any make-up lab must be completed within one week of its assignment.

Lab practical: Attendance during the scheduled lab practical for each section is required (1 exam covering parasitology, 1 exam covering medical entomology). Dates for the lab practical exams are listed in the syllabus. NO excuses for missing the lab practical exams are accepted, and there is NO make-up practical exam for either section. Because it requires approximately 16 hours of work to set up these exams, they cannot be set up for individual students. Each practical is worth 150 points, and if you miss the lab practical cannot be recovered.