

BSPM/MIP/BZ 462
PARASITOLOGY & VECTOR BIOLOGY
Fall 2012

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)

1. John, Petri. 2006. Markell and Voge's Medical Parasitology, 9th Edition. Saunders/Elsevier.
Primary reading listed first
2. Sullivan, John. 2009. A color Atlas of Parasitology. University of Dan Francisco.
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)
4. Combes, Claude. 2005. The Art of Being a Parasite. University of Chicago Press.
5. Class and laboratory notes for Glenda Taton-Allen
6. Class and laboratory notes for Dr. William C. Black IV

Protozoology and Helminthology: Glenda Taton-Allen

	Points
LECTURE EXAM #1	90 Points
LECTURE EXAM #2	60 Points
LECTURE EXAM #3	90 Points
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
<u>Week 1</u>		
August 20	Introduction (Dr. Black)	
August 22	Introduction to Parasites/Introduction to Protozoology	Ch2: 6-21; (Ch1: 1-25)
August 24	<u>Intro to Protozoology - Trypanosoma/Leishmania</u>	Ch5: 107-139 (Ch3,4: 37-71)
Tues lab	Intro/Safety/Lab notebook requirements/Movie Poster Assignment	
Thurs lab	Microscopy/Rumen contents/Immune Response	

Week 2

August 27	<i>Giardia/Trichomonas/Balantidium</i>	Ch3: 48-65; (Ch5,6,9: 73-82; 89-97; 125-130)
August 29	<i>Amoeba/Coccidia</i>	Ch3: 22-48, 65-66; (Ch7,10,12: 101-113; 135-140;145-156)
August 31	<i>Cryptosporidia/Cyclospora</i>	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	<i>Toxoplasma/Sarcocystis/Neospora</i>	Ch5; 140-150; (Ch13: 165-185)
September 7	<i>Plasmodium/Babesia/Immune Response</i>	Ch 4,5: 79-105, 150-152; (Ch14,15: 187-206; 211-220)
Tues lab	Coccidia Movie/Coccidia Fecal Exams	
Thurs lab	<i>Cryptosporidium</i> Acid fast/Antigen test	

Week 4

September 10	<u>Introduction to Trematodes/Schistosoma/Cercarial Dermatitis</u>	Ch6: 166-167, 181-196; (Ch17,18: 243-255; 257-272)
September 12	LECTURE EXAM 1: Protozoa	
September 14	<i>Fasciola/Fasciolopsis/Heterophyes</i>	Ch6: 178-181, 168-169, 172-173; (Ch19,20: 273-279; 293-296)
Tues lab	<i>Cryptosporidium/Giardia</i> MeriFluor IFA	
Thurs lab	Blood Smear prep/stain Lab Notebook Due	

Week 5

September 17	<i>Clonorchis/Paragonimus/Introduction to Cestodes</i>	Ch6: 173-176, 197-202; (Ch19,21,22: 282-285; 297-300; 301-315)
September 19	<i>Diphyllobothrium/Taenia/Cysticercus</i>	Ch7: 207-210, 211-223; (Ch23,24: 317-323; 327-334)
September 21	<i>Echinococcus/Hymenolepis/Dipylidium</i>	Ch7: 224-235; (Ch24: 335-345)
Tues lab	Unknown #1 Parasite Posters Due/Poster Presentations	
Thurs lab	Parasite Poster Presentations	

Week 6

September 24	<u>Introduction to Nematodes</u>	Ch8: 239-240; (Ch25: 349-357) (Ch30: 397-414)
	<i>Haemonchus/Ostertagia/Cooperia</i>	
September 26	LECTURE EXAM 2: Cestodes and Trematodes	
September 28	<i>Ancylostoma/Necator/Strongyloides</i>	Ch8: 248-261; (Ch27,26: 369-380; 359-368)

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: Nematoceros identification/
Start mosquito identification, **LAB 1 DUE**

Thursday Lab LAB 4a: Begin mosquito life cycle exercise
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 Simuliidae(Blackflies),Psychodidae(Sandflies)
Nov. 9 Ceratopogonidae (Biting Midges)/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.