

READINGS IN TROPICAL DISEASES – BIOL 4305
SPRING 2020

Instructor: Dr Crystal Kelehear Graham, Assistant Professor
Office: WSB 220, *Phone:* 432-837-8820, *E-mail:* crystal.graham@sulross.edu
Office Hours: 12:00-13:00 M, W | 14:00-15:30 Tu, Th | & by appointment

Lecture: M, W, F 11:00-11:50 AM | WSB 107

Course description: This course will focus on a range of tropical diseases from infectious diseases caused by viruses, bacteria, mycobacteria, helminths, protozoans, and ectoparasites to noncommunicable diseases with genetic and environmental causes. Class content will include lectures and both instructor-led and student-led scientific paper discussions and presentations.

Suggested Enjoyable Reading:

- Preston, 1995. The Hot Zone: The terrifying true story of the origins of the Ebola virus.
- Quammen, 2013. Spillover: Animal infections and the next human pandemic.

Marketable Skills (MS):

The biology student graduating with a BS in Biology should have the following MS's:

- 1) Ability to organize, analyze, and interpret data.
- 2) Proficiency in using presentation software.
- 3) Experience in managing time and meeting deadlines.
- 4) Ability to speak effectively and write concisely about scientific topics.
- 5) Experience in the development of professional email correspondence.

Student Learning Outcomes (SLO):

The biology student graduating with a BS in Biology should be able to:

*SLO1** demonstrate an understanding of basic biological concepts, including but not limited to evolution via natural selection, cell theory, and the role and function of DNA.
SLO2 demonstrate utilization of various field techniques toward addressing scientific questions in the specific discipline. These field techniques can include, but are not limited to, plant collection and processing, various animal collection techniques, ecological surveying and sampling, and biodiversity indexing.
SLO3 use biological instrumentation to solve biological problems using standard observational strategies.
*SLO4** develop writing skills by summarizing and critiquing recent relevant biological literature.

*SLO specifically addressed by this course

Student Learning Objectives for this Course:

- 1) Students will be familiar with terminology relevant to Tropical Medicine.
- 2) Students will be familiar with well-known pathogens and vectors and the tropical diseases they cause.
- 3) Students will be familiar with neglected tropical diseases.
- 4) Students will demonstrate an understanding of the factors that drive the incidence, severity, and distribution of tropical diseases.
- 5) Students will develop their critical thinking, scientific writing, and public speaking skills.

Attendance:

Class attendance and *active* participation in discussion is required for this course.

Lectures will not be posted on Blackboard so students must attend lectures to receive the material. In addition, the class will be heavily discussion based so attendance is required for this to work. Absences are excused only if students have a documented, university approved excuse (illness, death in the family, etc.). As per SRSU policy, any students missing 20% of class periods (i.e., 8) over the course of the semester shall be dropped from the class with an F. **Students cannot miss any exams** unless they have a documented, university-approved excuse; in these cases, the instructor needs to be informed at least **24 hours before** the day of the exam.

Assessments:

Students will be assessed based on their class attendance and participation (see details on hand out), one oral presentation, assignments, and three exams. Exams will cover the lecture material immediately preceding the exams *i.e.*, the final exam will not be comprehensive. In addition to covering the immediately preceding lectures the final exam will contain questions on each focal tropical disease – for this component of the exam each student will only answer the questions relevant to their focal tropical disease.

Attendance and Participation: 20%

Student Presentation (grade determined by your instructor and your peers): 20%

Assignments: 10%

Exam I: 12.5%

Exam II: 12.5%

Exam III (Final): 25%

Grading: **A** 90 – 100% **B** 80 – 89% **C** 70 – 79% **D** 60 – 69% **F** 0 – 59%

Class schedule (subject to change):

	Date	Topic
<i>Week 1</i>		
Meeting 1	Monday, January 13	Course Introduction + Introduction to Tropical Disease
Meeting 2	Wednesday, January 15	Introduction to Tropical Disease
Meeting 3	Friday, January 17	Viral Infections
<i>Week 2</i>		
No Class	Monday, January 20	No Class - Martin Luther King, Jr. Holiday
Meeting 4	Wednesday, January 22	Viral Infections
Meeting 5	Friday, January 24	Viral Infections
<i>Week 3</i>		
Meeting 6	Monday, January 27	Viral Infections
Meeting 7	Wednesday, January 29	Viral Infections
Meeting 8	Friday, January 31	Viral Infections
<i>Week 4</i>		
Meeting 9	Monday, February 03	Viral Infections
Meeting 10	Wednesday, February 05	Viral Infections
Meeting 11	Friday, February 07	Viral Infections
<i>Week 5</i>		
EXAM	Monday, February 10	Exam I
Meeting 12	Wednesday, February 12	Bacterial Infections
Meeting 13	Friday, February 14	Bacterial Infections
<i>Week 6</i>		
Meeting 14	Monday, February 17	Bacterial Infections
Meeting 15	Wednesday, February 19	Bacterial Infections
Meeting 16	Friday, February 21	Bacterial Infections
<i>Week 7</i>		
Meeting 17	Monday, February 24	Bacterial Infections
Meeting 18	Wednesday, February 26	Bacterial Infections
Meeting 19	Friday, February 28	Bacterial Infections
<i>Week 8</i>		
Meeting 20	Monday, March 02	Bacterial Infections
Meeting 21	Wednesday, March 04	Bacterial Infections
Meeting 22	Friday, March 06	Bacterial Infections
SPRING BREAK		No classes – Spring break
<i>Week 9</i>		
Meeting 23	Monday, March 16	Bacterial Infections
EXAM	Wednesday, March 18	Exam II
Meeting 24	Friday, March 20	Protozoan Infections
<i>Week 10</i>		
Meeting 25	Monday, March 23	Protozoan Infections
Meeting 26	Wednesday, March 25	Protozoan Infections
Meeting 27	Friday, March 27	Protozoan Infections
<i>Week 11</i>		
Meeting 28	Monday, March 30	Protozoan Infections
Meeting 29	Wednesday, April 01	Protozoan Infections
Meeting 30	Friday, April 3	Protozoan Infections

<i>Week 12</i>		
Meeting 31	Monday, April 6	Helminthic Infections
Meeting 32	Wednesday, April 8	Helminthic Infections
No Class	Friday, April 10	No Class - Good Friday
<i>Week 13</i>		
Meeting 33	Monday, April 13	Helminthic Infections
Meeting 34	Wednesday, April 15	Helminthic Infections
Meeting 35	Friday, April 17	Helminthic Infections
<i>Week 14</i>		
Meeting 36	Monday, April 20	Helminthic Infections
Meeting 37	Wednesday, April 22	Helminthic Infections
Meeting 38	Friday, April 24	Ectoparasites
<i>Week 15</i>		
Meeting 39	Monday, April 27	Non-communicable Diseases
Meeting 40	Wednesday, April 29	Non-communicable Diseases
EXAM	Tuesday, May 05	Final Exam (10:15-12:15)

Note – Lecture and discussion topics are subject to change according to course interest, organization, and timing constraints, however the exam dates will remain the same.

Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the Student's responsibility to initiate a request. Please contact Ms. Rebecca Greathouse Wren, M.Ed., LPC-S, Director/Counselor, Accessibility Services Coordinator, Ferguson Hall (Suite 112) at 432.837.8203; mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas 79832. Students should then contact the instructor as soon as possible to initiate the recommended accommodations.