

Valdosta State University, BIOL 3860/5860, Section A (3 credit hours)
Emerging Infectious Diseases, SUMMER IV 2023
Syllabus and Course Policies

Lecture: Bailey Science Center, room 1024 MTWRF 8:00 10:35 am

Instructor: Eric W. Chambers, Ph.D.

Office: BSC 2214; E mail: ewchambers@valdosta.edu Phone: 229 249 2736

Office Hours: MWF @11:00 AM – 12:00 PM or by appointment

Prerequisites: BIOL 1107, 1107L, BIOL 1108, 1108L, and BIOL 3200 or permission of instructor.

Course Description: An overview of emerging human infectious diseases with a special emphasis on biological factors impacting their transmission and control.

Recommended Reading and Viewing Materials:

1. Emerging Infectious Diseases: A Guide to Diseases, Causative Agents, and Surveillance by Lisa A. Beltz, Jossey Bass ISBN: 0470398035. Available on line at https://galileo.valdosta.primo.exlibrisgroup.com/permalink/01GALI_VALDOSTA/eo9m8/alma9923518004302931
2. Microbiology by Nina Parker et al., OpenStax ISBN 13: 978 1 50669 811 3. Available online at <https://openstax.org/details/books/microbiology>
3. Bats and Human Health: Ebola, SARS, and Beyond by Lisa A. Beltz, Wiley Blackwell ISBN: 9781119150039. Available on line at https://galileo.valdosta.primo.exlibrisgroup.com/permalink/01GALI_VALDOSTA/eo9m8/alma9916215411202931
4. Primary literature dealing with emerging infectious diseases. These will be available to students through Blazeview
5. Video presentations as assigned by Dr. Chambers

Course goals: This course will explore issues associated with emerging infectious diseases (EID). Currently, we find ourselves impacted by the first truly dangerous global pandemic in the last 100 years, the SARS CoV 2 pathogen, the causative agent of COVID19. In addition, we are now grappling with the emergence of Monkeypox as well as novel forms of avian

disease as well as with their associated vectors. The manifestation of disease symptoms will be addressed including the molecular basis of infection. You will be introduced to the symptoms associated with each disease and you will learn how the human immune system responds to infection. You will also become acquainted with the diagnosis, treatment, and prevention of the diseases covered in the course. You will learn the factors associated with transmission of these diseases and the important role of disease surveillance. Finally, you will be familiar with those agents that could be employed as agents of bioterrorism.

Educational outcomes: Listed at the end of syllabus

Attendance: This is a 3 week online course. It is essential for you to attend lecture each morning. You will receive additional instruction and clarification on the topics that you will not receive by just reading the text or reviewing the PowerPoint slides. In addition, there will be short assignments that we will be completing during lecture time that **you cannot make up outside of class**. The key to success in this course is to **NOT** procrastinate! That means keeping up with the daily readings, videos, and assigned work!

Grade Assessment: Your final grade will be based on your performance on homework, lecture examinations and written assignments

1. Unit Exams (200 points): There will be two exams in this course. The first will be administered at mid term and the second on the day scheduled for the final exam. Each exam will cover the material for a specific unit and will consist of a variety of question types. The questions may be in the form of multiple choice or matching questions as well as short or long form written responses. You will be expected to use basic math/algebra skills to interpret and solve epidemiological data associated with a disease outbreak. The exams are closed book and will be administered during the class period. You will need to bring a simple scientific calculator for each exam.

2. PowerPoint Presentation (100 points): You will prepare and deliver a 7 minuc(to)TD092TJ/TT31Tf1.48630TD0Tc: break

Course Grade:

All assignments will be counted towards your final

Summer 2023 TENTATIVE LECTURE SCHEDULE

Unit 1 – Introduction to Human Disease, Pandemics and Spillover	Readings
Course Intro Brief History of Infectious Disease How Humans and pathogens interact Zoonoses and One Health	Syllabus Chapter 1 & 2 Emerging Infectious Diseases Chapter 17 & 18 OpenStax Microbiology
HIV and AIDS	Chapter 15 Bats and Human Health Assigned readings
Ebola Virus Disease (EVD)	Chapter 16 Emerging Infectious Diseases
SARS, MERS, SARS CoV2 (COVID19)	Chapter 12 Emerging Infectious Diseases Chapter 4 Bats and Human Health
Henipaviruses (Nipah and Hendra)	Chapter 21 Emerging Infectious Diseases Chapter 5 Bats and Human Health Assigned readings
	Chapter 3 Bats and Human Health Assigned readings
Exam #1	Friday, July 14, 2023
UNIT 2 – Vector borne diseases and Bioweapons	
Epidemic and Pandemic Influenza	Chapter 19 Emerging Infectious Diseases TBD
Lyme Disease Chagas Disease Zoonotic Malaria	Chapter 3 Emerging Infectious Diseases Chapter 27 Emerging Infectious Diseases TBD
Dengue Virus Malaria and Zoonotic malaria	Chapter 15 Emerging Infectious Diseases Chapter 27 Emerging Infectious Diseases TBD
West Nile virus Chikungunya, and Zika viruses	Chapter 22 Emerging Infectious Diseases TBD
Small Pox and Monkey Pox	Chapter 23 TBD
Student Presentations	
Student Presentations	
Exam #2	Thursday, July 27, 2023 8:00 10:00 AM

VALDOSTA STATE UNIVERSITY GENERAL EDUCATIONAL OUTCOMES (GEO)

4. Students will express themselves clearly, logically and precisely in writing and in speaking, and they will demonstrate competence in reading and listening. They will display the ability to write coherently in standard English; to speak well; to read, to understand, and to interpret the content of written materials in various disciplines; and to listen effectively and to understand different modes of communication.

7. Students will demonstrate the ability to analyze, to evaluate, and to make inferences from oral, written and visual materials. They will be skilled in inquiry, logical reasoning, and critical analysis. They will be able to acquire and evaluate relevant information, analyze arguments, synthesize facts and information, and offer logical arguments