

Queen, Fall 2021

**Microbes in Human Disease (KINE 310-01)
Monday/Wednesday 3:30-4:50pm, Small 110**

Professor: Ashleigh Everhardt Queen, MS, Ed.D.

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Office hours: Mondays from 11:20-12pm via Zoom, due to the space constraints of my office. I will also be available via appointment – a link to my calendar is under the About the Course section in Blackboard.

Course Description

An introductory course investigating prokaryotic and eukaryotic pathogens and their clinical impact on human health. This course will begin with a discussion of the field of microbiology, in terms of history and the characteristics of microorganisms. Included throughout the semester will be topics pertaining to relevant pathogens of humans, their mechanism of action and their clinical relevance in the United States and abroad. In addition, this course will also cover mechanisms of the human immune system in fighting pathogens and current treatments and preventions in medicine to protect humans from infection. To take the Microbes in Human Disease Lab, student must be taking or have taken this course. This course is aimed at students who are interested in Allied Health as it will provide an introduction to pathogens, grouped by the different systems of the body.

Pre-Requisites: KINE 200 (Intro to the Human Body) or BIO 203/204 (Introduction to Biology)

Recommended (but not required) Prior Courses: KINE 303/314 or 315 (Human Anatomy + Lab) & KINE 304/305 (Human Physiology + Lab)

Contact Information

Email is the best way to reach me. When composing emails, please put your name and the course in the subject line. Also, keep in mind that an email to an instructor is not a text message to a friend. Any emails that have no name signed or that are composed in a “text message” like manner will not be answered.

I will respond to all emails on weekdays within 24 hours. On weekends or holidays, please allow 48 hours for a response, although I usually respond before this time. **Please note, I do not answer emails between the hours of 7pm and 7am.** I will answer all emails sent during that time after 7am of the following day or within two days on weekends and holidays.

Course Objectives

This course aims to provide students with the following:

- 1) An understanding of prokaryotic and eukaryotic pathogens, the differences between the two classifications, and types of pathogenic organisms in each group.
- 2) An understanding of detailed characteristics of bacterial cells as well as general characteristics of other pathogens (viruses, parasites, etc.)
- 3) An explanation of the methods utilized by the immune system in fighting pathogens.
- 4) An assessment of pathogens (bacterial, viral and parasitic, etc.) of the body, grouped by the system that they infect.

Queen, Fall 2021

- 5) A differentiation between the types of vaccines and correlate vaccination to the concept of herd immunity and current measures of disease prevention in public health.
- 6) A brief examination of the methods of treatment of food and water in an aim to prevent disease in the human population in the United States and abroad.
- 7) A brief understanding of the impact of this field on bioterrorism.
- 8) Relate current scientific research to the concepts that we discuss in class.

Course Guidelines

- 1) All course materials, including lectures, supplemental materials, assignments, quizzes, and exams will be administered via the Blackboard site for the course. Upon registering, you should gain access to this portal. Please let Dr. Queen know if you have trouble accessing the course site.
- 2) Check Blackboard and email daily, as this is the main means of communication for the course. All announcements and schedule changes will be posted here – you are responsible for this information.
- 3) You are responsible for the Honor Code found in the Student Handbook of The College of William & Mary
(http://www.wm.edu/offices/deanofstudents/services/studentconduct/studenthandbook/honor_system/index.php).

Student Accessibility Services

William & Mary accommodates students with disabilities in accordance with federal laws and university policy. Any student who feels they may need an accommodation based on the impact of a learning, psychiatric, physical, or chronic health diagnosis should contact Student Accessibility Services staff at 757-221-2512 or at sas@wm.edu to determine if accommodations are warranted and to obtain an official letter of accommodation. For more information, please see www.wm.edu/sas.

Attendance

Attendance is not recorded, but missing lectures may impact your performance in the course due to missing pertinent course discussions. I will post all materials, but attending class is the best way to succeed in this course.

Recommended Textbook

Microbiology with Diseases by Body System (5th Edition). Robert W. Bauman
An older edition of this text book will work fine as well!

Observance of Religious Holidays

If you plan to miss class for the observance of a Religious Holiday, please inform the instructor as soon as possible so that alternate arrangements for material instruction and assignments can be made. This may be communicated via email.

Academic Honesty

The College of William & Mary has had an honor code since at least 1779. Academic integrity is at the heart of the university, and we all are responsible for upholding the ideals of honor and integrity. The student-led honor system is responsible for resolving any suspected violations of the Honor Code, and I will report all suspected instances of academic dishonesty to the honor system. The Student Handbook (www.wm.edu/studenthandbook) includes your responsibilities as a student and the full Code. Your full participation and observance of the Honor Code is expected. To read the Honor Code, see www.wm.edu/honor

Your full participation and observance of the Honor Code is expected **ON ALL ASSIGNMENTS**. While you may discuss the concepts covered in the course with fellow students, **any work that you submit should be completed by you alone.** Failure to follow his policy will result in the students involved being reported to the Office of Community Values and Restorative Practices for review by the William & Mary Honor Council.

Course Evaluation

Final grades will be based on the following:

- Exam #1 = 25%
- Exam #2 = 25%
- Exam #3 = 25%
- Discussion Boards = 12.5%
- Blackboard Quizzes = 12.5%

****All exams will be 1 hr and 20min, including the third exam. Exam 3 is NOT cumulative but will be given during the final exam period as determined by the university.**

A rubric will be provided for the general format of the Discussion Boards - this will be discussed in class and posted on Blackboard.

Grading Scale – The grades in this course will be given based on the following scale. In the event of a curve, I will post on Blackboard the change to the scale. All final grades will be rounded to the nearest whole number (0.5 rounds up; 0.4 rounds down). Please note that the “Total” column in Blackboard **DOES NOT** correctly show your weighted average for the course.

A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	Below 60

KINE 310 Tentative Course Topic Schedule - FALL 2020

Date Available	Topic	Chapters (Same for 4 th OR 5 th edition!)
9/1/2021	Syllabus Review & Course Questions	
9/6/2021	History of Microbiology	1
9/8/2021, 9/13/2021	Cell Structure & Function	3
9/15/2021	Classification of Organisms	Selections from 4, 11, 12, 13
9/20/2021, 9/22/2021	Microbial Metabolism, Nutrition, & Growth	5 & 6
9/22/2021, 9/27/2021	Microbial Genetics	7
	Quiz 1 opens 9/29/2021 and closes on 10/1/2021 at 11:59pm Discussion Board 1 due 10/1/2021 at 11:59pm	
10/4/2021	EXAM 1	
10/6/2021, 10/11/2021, 10/13/2021	Innate & Adaptive Immune Systems	15 & 16
10/13/2021, 10/20/2021	Vaccines	17
10/20/2021, 10/25/2021	Immune System Disorders	18
10/27/2021	Antimicrobial Drugs	10
	Quiz 2 opens 10/29/2021 and closes on 11/1/2021 at 11:59pm Discussion Board 2 due 11/1/2021 by 11:59pm	
11/3/2021	EXAM 2	
11/8/2021, 11/10/2021	Pathogens of Skin & Wounds	19
11/10/2021, 11/15/2021	Pathogens of the Nervous System & Eyes	20
11/15/2021, 11/17/2021	Pathogens of the Cardiovascular System/Systemic Infections/Respiratory System	21 & 22
NO CLASS – HAPPY THANKSGIVING		
11/29/2021	Pathogens of the Reproductive & Urinary Systems	24
12/1/2021	Food Microbiology & Pathogens of the Digestive System	23 & 25
12/6/2021	Industrial Microbiology – Water Treatment	25
12/6/2021	Bioterrorism & Biological Warfare Discussion Board 3 due by 12/6/2021 at 11:59pm	25
12/8/2021	Catch up, Review	
	Quiz 3 open 12/7/2021 and closes on 12/10/2021 by 11:59pm	
12/17/2021 due by 12pm	EXAM 3	

Important Dates:

- **Last day to Add/Drop: 9/10/21**
- **Last day to Withdraw: 11/1/2021**