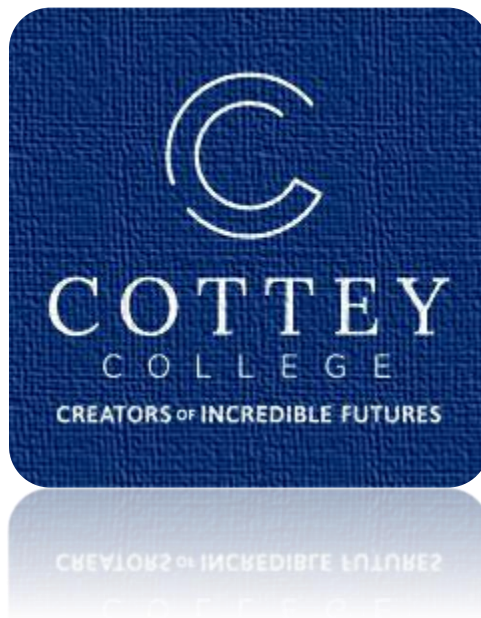


Introduction to Virology (BIO 330)

Dr. Manjira Kumar (Ext: 2240, mkumar@cottey.edu)

Summer 2022

Class hours: Online course



Semester Hour Credits: 3

Instructor: Manjira Kumar (Ph.D.)

Office: RBAC 212

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Office Hours:

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Required Text:

Introduction to Modern Virology

Seventh edition

N.J. Dimmock, A.J. Easton, and K.N. Leppard

ISBN13: 978-1-119-97810-7

WILEY Blackwell

Pre and Co-requisites:

Prerequisite: 300 level Molecular Biology

Course Objectives and learning outcomes:

Study of viruses is essential for students and researchers in the field of biology, biotechnology, medicine, public health, and related areas. This course emphasizes various aspects of pathogenic and non-pathogenic viruses, molecular mechanisms of infection, and host-pathogen interaction. As a result of instruction students successfully completing the BIO 3xx (Virology) to fulfill the following learning outcomes -

A successful Cottey graduate

- **Enriches Her Knowledge (A)**

A Cottey student understands ideas from a variety of academic disciplines and diverse groups.

- **Thinks Critically (B)**

A Cottey student comprehensively explores issues before accepting arguments or forming conclusions of her own.

- **Communicates Effectively (C)**

A Cottey student uses appropriate means to communicate clearly.

The above Learning Outcomes are met by fulfilling the following course specific outcomes.

- Reading, learning, and discussing viruses based primary literatures and review articles, and textbook would help students to acquire current knowledge in the field of virology.
- The students will develop communication skills in expressing oneself by writing the research review papers.
- Critical thinking and problem-solving approaches will be used in home assignments, which can be consistently applied in any field of biological or biomedical sciences.

Teaching methods

e-Learning: Materials relevant to the class will be posted to eLearning. These include: (1) basic information about the course, (2) lecture PowerPoints and notes for each chapter as needed, (3) handouts, (4) study guides, (5) homework, and (6) grades. You should check e-Learning for updates and announcements on a regular basis.

Homework: A total of 6 homework problems will be assigned on e-Learning. Homework will be posted each Monday and is due Thursday midnight. Each homework assignment is worth 100 points (100 x 6 =600). No late submissions will be accepted. Homework problems should be typed in WORD document. **Questions will be mostly short answer type of questions.** The homework will be posted under **HOMEWORK** and they need to be submitted under file-format **ASSIGNMENTS**.

The deadlines for homework are posted in the Class Schedule (all in Missouri time zone (Central Time Zone)). **NO LATE SUBMISSION WILL BE ALLOWED. Students need to submit the homework on eLearning before the deadline. MAKE SURE YOU ANSWER EACH QUESTION THOROUGHLY.**

Final research paper: You will be selecting a viral disease of your interest. You will be writing a final research paper of that virus and the disease based on what you would be learning in the class. The mechanism of infection and disease pathology should be covered in your paper. You need to select at least three review papers and seven research articles to complete your review paper. We will have to add proper in-text citations and references at the end of the review. The final paper will be worth 100 points.

Expectations: Students are expected to (1) read and study text material as outlined on the lecture schedule, (2) solve assigned practice questions and problems from each chapter on the timeline specified on the lecture schedule, (3) submit homework on time and (3) respond to emails in a timely manner.

Plagiarism and other forms of academic dishonesty are not acceptable and not tolerated. Honor Code policies stated in the current Cottey College catalog are followed and implemented when appropriate. It is forbidden to copy other people's work – from Internet, books, and even your own work from previous assignments without proper citation.

First warning – 0 points for the whole assignment

Second time – subject to grievance being filed against the student that will be reviewed by the Judicial Board of the College

Grading System: Determination of the final grade for the course is based on the number of points earned on homework, and the writing assignment.

Homework 600

Final research paper 100

Grades due is on 20rd of July

Total
700
points

	100%
A	90%
A -	89.9%- 89.5%
B	89.4% - 80%
B-	79.9% - 79.5%
C	79.4% - 70%
C-	69.9% - 69.5%
D	69.4% - 60%
D-	59.9% - 59.5%
F	59.4% - 0%

Tentative Schedule

		objectives	Assignments
Week 1 June 6, 2021	Chapter 1: Definition of a virus Chapter 2: Structure of virus particles Chapter 3: Classification of viruses	A, B, C	Homework 1(100 points) Due on Thursday (9 th) Drop date: June 13
Week 2 June 13	Chapter 5: Techniques of studying viruses Chapter 6: The process of infection Chapter 7: The replication of viral DNA Chapter 8: Genome replication of RNA viruses	A, B, C	Homework 2 (100 points) Due on Thursday (16 th)
Week 3 June 20	Chapter 9: Replication of RNA viruses with DNA intermediates and vice versa Chapter 10: Gene expression in DNA viruses	A, B, C	Homework 3 (100 points) Due on Thursday (23 rd)
Week 4 June 27	Chapter 11: Gene expression and regulation in RNA viruses Chapter 12: The Assembly of viruses	A, B, C	Homework 4 (100 points) Due on Thursday (30 rd)
Week 5 July 4	Chapter 13: Innate and intrinsic immunity Chapter 14: The adaptive immune response Chapter 17: Mechanisms in virus latency	A, B, C	Homework 5 (100 points) Due on Thursday (7 th) Last date to drop with a "W" – July 6
Week 6 July 11	Chapter 19: Human viral disease Chapter 21: HIV and AIDS Discussion: Coronavirus and COVID-19	A, B, C	Homework 6 (100 points) Due on Thursday (14 th) Final Paper due on Thursday (14th)