

Note:

Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should not be used to purchase course materials.

COURSE SYLLABUS

BIOM 625

MICROBIAL PATHOGENESIS AND VIROLOGY

COURSE DESCRIPTION

A comprehensive study of the viruses that cause human disease and the basic principles of microbial pathogenesis, including the molecular basis of infectious disease, how microbes establish infections, gain nutrients, cause damage to the host and disease, evade host defense mechanisms. The course will also include case studies.

RATIONALE

This course builds upon the framework established by introductory microbiology classes, focusing on those microorganisms responsible for important infections in humans. Diseases caused by the four main microbial communities are defined: viruses, bacteria, fungi, and parasites. In addition to describing the microorganisms and diseases that they cause, the pathophysiology of these diseases and how body sites are altered in response to these infections are addressed.

I. PREREQUISITE

For information regarding prerequisites for this course, please refer to the [Academic Course Catalog](#).

II. REQUIRED RESOURCE PURCHASE

Click on the following link to view the required resource(s) for the term in which you are registered: <http://bookstore.mbsdirect.net/liberty.htm>

III. ADDITIONAL MATERIALS FOR LEARNING

- A. Computer with basic audio/video output equipment
- B. Internet access (broadband recommended)
- C. Microsoft Office

IV. MEASURABLE LEARNING OUTCOMES

Upon successful completion of this course, the student will be able to:

- A. Describe the structure and properties of different types of microorganisms (bacteria, viruses, fungi, and parasites) and their clinical presentations.
- B. Describe the replicative strategies of individual viruses including the processes of viral entry, gene control, assembly, and egress from the cell.
- C. Compare diagnostics methods used in the detection and identification of human viruses.
- D. Describe the distinctive features of pathogenic bacteria, fungi, protists, and worms.

- E. Describe the life cycles of medically important parasites.
- F. List the various antibacterial, antifungal, and antiparasitic drugs along with their appropriate target organisms and modes of action.

V. COURSE REQUIREMENTS AND ASSIGNMENTS

- A. Textbook readings and lecture presentations
- B. Course Requirements Checklist
After reading the Course Syllabus and [Student Expectations](#), the student will complete the related checklist found in Module/Week 1.
- C. Discussion Board Forums (4)
Discussion boards are collaborative learning experiences. Therefore, the student is required to create a thread in response to the provided prompt for each forum. Each thread must be 450–500 words, demonstrate course-related knowledge, and include at least 1 biblical principle or scientific reference. In addition to the thread, the student is required to reply to 1 other classmate’s thread. Each reply must be 300–400 words.
- D. Exams (4)
Each exam will cover the Reading & Study material for the previous and assigned modules/weeks. Each exam will be open-book/open-notes, contain a various number of true/false, multiple-choice, matching, short answer and essay questions, and have a 2-hour time limit.

VI. COURSE GRADING AND POLICIES

A. Points

Course Requirements Checklist	10
Discussion Board Forums (4 at 100 pts ea)	400
Exams 1–4 (Modules 2, 4, 6, 8)	600
Total	1011010

- B. Scale
A = 930–1010 A- = 900–929 B+ = 870–899 B = 830–869 B- = 800–829
C+ = 770–799 C = 730–769 C- = 700–729 D = 600–699 F = 0–599

- C. Disability Assistance
Students with a documented disability may contact Liberty University Online’s Office of Disability Academic Support (ODAS) at LUOODAS@liberty.edu to make arrangements for academic accommodations. Further information can be found at www.liberty.edu/disabilitysupport.

COURSE SCHEDULE

BIOM 625

Textbook: Engleberg et al., *Schaechter's Mechanisms of Microbial Disease* (2013).

MODULE/ WEEK	READING & STUDY	ASSIGNMENTS	POINTS
1	Engleberg et al.: pp. 321–323 1 presentation	Course Requirements Checklist Class Introductions DB Forum 1	10 0 100
2	Engleberg et al.: pp. 323–330 1 presentation	Exam 1	150
3	Engleberg et al.: p. 335 1 presentation	DB Forum 2	100
4	Engleberg et al.: pp. 335–336, 419–437, 438–448 1 presentation	Exam 2	150
5	Engleberg et al.: chs. 10, 19, 23 1 presentation 2 articles	DB Forum 3	100
6	Engleberg et al.: chs. 12, 14, 16, 24–25, 28, 30 1 presentation	Exam 3	150
7	Engleberg et al.: chs. 46–50 Bible Readings 1 presentation 5 lecture notes	DB Forum 4	100
8	Engleberg et al.: chs. 51–55 1 presentation 5 lecture notes	Exam 4	150
TOTAL			101010

DB = Discussion Board

NOTE: Each course module/week begins on Monday morning at 12:00 a.m. (ET) and ends on Sunday night at 11:59 p.m. (ET). The final module/week ends at 11:59 p.m. (ET) on **Friday**.