
Biology Department, College of Arts & Sciences, Valdosta State University

FALL 2016---COURSE SYLLABUS*

BIOL 4510 Virology (CRN 81291) -- 3 credit hours

BIOL 6510 Virology (CRN 81312)-- 3 credit hours

Class: MW 3:30-4:45 pm, 2022 Bailey Science Center

Instructor: Dr. Jenifer Turco

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Office Hours: Wed., 5:00-5:30 pm & Thurs. 12:30-1:30 pm; or by appointment.

Course Description:

BIOL 4510 Virology 3-0-3 (3 credit hours) Prerequisites: BIOL 1107, BIOL 1108, BIOL 3100. or consent of instructor.

BIOL 6510 Virology 3-0-3 (3 credit hours) Prerequisite: Admission into the graduate program or permission of the instructor.

An introduction to viruses and other non-cellular infectious agents. Topics include the structure and composition of these agents, their replication, effects on their host, and host responses. Methods for studying these agents, their origins and evolution, and their uses in biotechnology will also be discussed.

Required Textbook: UNDERSTANDING VIRUSES, Second Edition

By Teri Shors

Jones & Bartlett Learning 2013

ISBN 978-1-4496-4892-3

Additional Resource: BASIC VIROLOGY, Third Edition

by Edward K. Wagner, Martinez J. Hewlett, David C. Bloom, and David Camerini

Blackwell Publishing 2008

ISBN 978-1-4051-4715-6

The instructor has placed a copy of this book on reserve in the library. You may need to consult it periodically.

Other Materials: Calculator that is not integrated with a cell phone

One CD (or jump drive) for oral presentation. (Email may not be used to access your PowerPoint file.)

One thin, light-weight folder for handing in assignments (No 3-ring binders, please)

Paper clips or stapler/staples for organizing references and assignments

SPECIAL NOTES TO STUDENTS:

1. In order to respect the privacy of each student, exam scores and grades will not be posted, given out by telephone, or sent to students by email.
2. Students should consult the VSU Student Handbook, Undergraduate Catalog, Semester Calendar, Schedule of Classes, & Registration Guide (all available online) for information about VSU policies and procedures regarding registration, conduct, drop/add, and withdrawal. October 6 is midterm. Students are not permitted to withdraw after midterm except in cases of hardship.
3. Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The Access Office is located in Farbar Hall. The phone numbers are 229-245-2498 (V), 229-375-5871 (VP) and 229-219-1348 (TTY). For more information, please visit VSU's Access Office or email: access@valdosta.edu.

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***This is a tentative syllabus. Specific requirements for BIOL 4510 and BIOL 6510 are noted in this syllabus. Changes to this syllabus will be announced during class periods; alternatively, changes may be posted on BlazeView.**

SPECIAL NOTES TO STUDENTS (continued):

4. Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: Maggie Viverette, Director of the Office of Social Equity, titleix@valosta.edu, 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 229-333-5463.
5. Cell phones, music players (iPod, mp3, etc.), and other electronic devices may not be used at any time in class. Students are especially cautioned to be certain that cell phones are silenced and put away during examinations. Should a cell phone be seen or heard by the instructor during an examination, the student's exam will be terminated and the student will receive a score of "0" on the exam.
6. No hats may be worn during examinations. Please use the rest room before you come to class to take an exam. Should a student need to leave the classroom during an exam, the student's exam will be terminated.
7. Students are expected to read and adhere to the following: (i) the VSU Student Code of Conduct as described in the VSU Student Handbook and (ii) the Biology Department policy on plagiarism (available online through the departmental Web site). The instructor may use a variety of methods for detecting cheating and plagiarism. Cheating or plagiarism will result in a grade of "0" for the exam or assignment. In addition, the instructor may complete a Report of Academic Dishonesty and submit it to the VSU Student Conduct Office. A student who cheats or plagiarizes on more than one exam or assignment will receive a grade of "F" in the course.
8. Food is not permitted in the classroom.
9. No disruptive behavior will be tolerated during class. A student who engages in disruptive behavior will be asked to leave. If necessary, the campus police will be contacted.
10. Students who wish to use laptop computers as part of the class are required to sit in the first three rows of the classroom.
11. At the end of the term, all students will be expected to complete an online Student Opinion of Instruction survey (SOI) that will be available on BANNER. Students will receive an email notification through their VSU email address when the SOI is available (generally at least one week before the end of the term). SOI responses are anonymous to instructors/administrators. Instructors will be able to view only a summary of all responses after they have submitted final grades. While instructors will not be able to view individual responses or to access any of the data until after final grade submission, they will be able to see which students have or have not completed their SOIs. These compliance and non-compliance reports will not be available once instructors are able to access the results. Complete information about the SOIs, including how to access the survey and a timetable for this term is available at [SOI Procedures and Timelines](http://www.valdosta.edu/academics/academic-affairs/sois/welcome.php) (located at <http://www.valdosta.edu/academics/academic-affairs/sois/welcome.php>).

COURSE OBJECTIVES

After successful completion of this course, the student should be able to:

- (1) Describe the biochemical composition, replication strategies, functions, and significance of viruses and other non-cellular infectious agents.
- (2) Read and understand current scientific literature related to viruses and other non-cellular infectious agents.
- (3) Convey orally and in writing information from the scientific literature related to viruses and other non-cellular infectious agents.

Alignment of Assignments with Course Objectives:

The course objective(s) aligned with each assignment are given on the last page of this syllabus.

Alignment of Course Objectives with Educational Outcomes:

The **Student Learning Goals for the Core Curriculum in the University System of Georgia (USG)** are available online at http://www.usg.edu/academic_affairs_handbook/section2/C738/. The application of these learning goals in VSU's Core Curriculum is explained at <http://www.valdosta.edu/academics/academic-affairs/vp-office/vsu-core-curriculum.php>.

Each Core Area (A1, A2, B, C, D, and E) has one or more learning goals. There are also three additional learning goals for the Core Curriculum as follows: Learning Goal I: US Perspectives (US Goal): Students will demonstrate an understanding of the United States and its cultural, economic, political, and social development; Learning Goal II: Global Perspectives (GL Goal): Students will demonstrate an understanding of the cultural, religious, or social dimensions of societies around the

world; and Learning Goal III: Critical Thinking (CT Goal): Students will identify, evaluate, and apply appropriate models, concepts, or principles to issues, and they will produce viable solutions or make relevant inferences. The **VSU General Education Outcomes** are available online at

<http://ww2.valdosta.edu/gec/documents/matrixGenEdoutcomestocorecourses.pdf> ;

in this syllabus they are referred to as VSUA1, VSUA2, VSUB, VSUC, VSUD, and VSUE. The **Biology Undergraduate Educational Outcomes** (numbered 1-5) are available in the VSU Undergraduate Catalog, and the **Biology Graduate Educational Outcomes** are available in the VSU Graduate Catalog and are numbered 1 through 4. Both catalogs are available online at <http://www.valdosta.edu/academics/catalog/> .

Alignment of Course Objectives with Educational Outcomes:

Course objective (1) relates to USG Core Curriculum Learning Goals for Core Area D; Learning Goal III: Critical Thinking; VSU General Education Outcomes VSUA1, VSUB, VSUC, and VSUD; Biology Undergraduate Educational Outcomes 2, 3, 4, and 5; and Biology Graduate Educational Outcome 1.

Course objectives (2) & (3) relate to USG Core Curriculum Learning Goals for Core Area D; Learning Goal III: Critical Thinking; VSU General Education Outcomes VSUA1, VSUB, VSUC, and VSUD; Biology Undergraduate Educational Outcomes 1-4; and Biology Graduate Educational Outcomes 1 and 2.

TENTATIVE CLASS SCHEDULE

Date	Topics	Related material in text
Mon. Aug. 15	General course information Introduction to viruses Impact of viruses	Chapters 1
Wed. Aug. 17	Molecular biology & host cell constraints <u>***BIOL 6510 students should meet with the instructor to discuss topics for their term papers.</u>	Chapter 2
Mon. Aug. 22	Virus architecture and nomenclature Virus replication cycles <u>***Lottery to determine order of selection of topics for oral presentations</u>	Chapters 3 & 4
Wed. Aug. 24	Virus replication cycles <u>***Select topics for oral presentations from list.</u>	Chapter 4
Mon. Aug. 29	Laboratory diagnosis of viral diseases & Working with viruses in the research laboratory	Chapter 5
Wed. Aug. 31	Laboratory diagnosis of viral diseases & Working with viruses in the research laboratory	Chapter 5 To be announced
Mon. Sept. 5	Labor Day (holiday)	
Wed. Sept. 7	Mechanisms of viral entry & spread of infection in the body	Chapter 6
Mon. Sept. 12	Mechanisms of viral entry & spread of infection in the body Host resistance to viral infections <u>***Primary source for oral presentation is due. (BIOL 4510&BIOL 6510)</u>	Chapter 6 Chapter 7

TENTATIVE CLASS SCHEDULE

Date	Topics	Related material in text
Wed. Sept. 14	EXAM 1 (material covered through Sept. 12)	
Mon. Sept. 19	Host resistance to viral infections	Chapter 7
Wed. Sept. 21	Epidemiology	Chapter 8
Mon. Sept. 26	History of medicine, clinical trials, gene therapy, & Xenotransplantation ***References for term paper are due. *** (BIOL 6510)	Chapter 9
Wed. Sept. 28	Viruses and cancer ***Written report is due. *** (BIOL 4510)	Chapter 10
Mon. Oct. 3	Viruses and cancer Poliovirus and other enteroviruses	Chapter 10 Chapter 11
Wed. Oct. 5	Poliovirus and other enteroviruses Influenza viruses	Chapter 11 Chapter 12
FALL BREAK		
Wed. Oct. 12	Influenza viruses Rabies	Chapter 12 Chapter 13
Mon. Oct. 17	EXAM 2 (material covered through Oct. 12)	
Wed. Oct. 19	Rabies Poxviruses	Chapter 13 Chapter 14
Mon. Oct. 24	Poxviruses Herpesviruses	Chapters 14 & 15
Wed. Oct. 26	Herpesviruses Human immunodeficiency virus ***Term paper is due. *** (BIOL 6510)	Chapters 15 Chapter 16
Mon. Oct. 31	Human immunodeficiency virus Hepatitis viruses <u>Assigned reading: New viruses & viruses that are reemerging, Chapter 18</u>	Chapter 16 Chapter 17
Wed. Nov. 2	Prions & viroids Other viruses	Chapter 19 Chapters 20-21
<u>Mon. Nov. 7</u>	Other viruses Student oral presentations (attendance required)	Chapters 20-21
<u>Wed. Nov. 9</u>	Student oral presentations (attendance required)	

TENTATIVE CLASS SCHEDULE

Date	Topics	Related material in text
<u>Mon. Nov. 14</u>	Student oral presentations (attendance required)	
<u>Wed. Nov. 16</u>	Student oral presentations (attendance required)	
<u>Mon. Nov. 21</u>	Student oral presentations (attendance required)	
THANKSGIVING HOLIDAY		
<u>Mon. Nov. 28</u>	Student oral presentations (attendance required)	
<u>Wed. Nov. 30</u>	Student oral presentations (attendance required)	
<u>Mon. Dec. 5</u>	Student oral presentations (attendance required)	
<u>Thurs. Dec. 8</u>	Comprehensive Final Exam, 2:45-4:45 pm	

ATTENDANCE. Attendance will be checked in class. As stated in the VSU Undergraduate Catalog, “A student who misses more than 20% of the scheduled classes of a course will be subject to receiving a failing grade in the course.” Students are required to attend and participate during class periods when student oral reports are scheduled. Missing or not participating in more than two of these required classes will result in the loss of points as follows: fifty points will be deducted for each absence beyond the second absence.

EXAMINATIONS. Examinations may include questions of the multiple-choice, matching, true-false, short answer, problem, and essay formats. Three exams will be given (two exams plus the final exam). The second exam will be comprehensive in that up to 25% of the points on the exam may include material covered before the first exam. The final exam will be fully comprehensive. Exams 1 and 2 will be worth 210 points each, and the final exam will be worth 250 points. A student should notify the instructor as soon as possible if he/she misses an exam. Arrangements for a make-up exam must be made within one week after the exam date; otherwise, a make-up exam will not be given. A makeup exam will be worth 180 points rather than 210 points, and it may consist entirely of questions of the short answer and essay formats. Cell phones may not be used during examinations or at any time in class. Please bring #2 pencils and erasers to each exam.

Exams will not be returned to students. After grading has been completed, the instructor will bring the exams to one of the class periods for students to view. If a student needs additional time to view an exam, or if a student is absent from class on the day a particular exam is viewed, the student must make an appointment with the instructor within one week of the day the exam is viewed in class.

WRITTEN REPORT (BIOL 4510) OR TERM PAPER (BIOL 6510).

BIOL 4510: Each student must select and read one article (approximately 4 to 10 pages per article) about viruses (published between 2011 and 2016) and submit a **complete** copy of the article plus a 3-page, typed, **double-spaced** report summarizing it. The topic of the article chosen by the student for this written report must not be closely related to the topic chosen for the oral report. These articles may include informal articles from *Science* or other scientific publications, articles from *Scientific American*, short review articles from *Science* or *Emerging Infectious Diseases*, articles from *Morbidity and Mortality Weekly Report*, formal articles from other scientific journals, etc. For the written reports, margins must be set at 1 inch on all sides of the paper, and a 12-point font should be used. A title page that has the topic, the student’s name, and the date, should also be included. Each report will be worth 100 points. Plagiarized reports will receive a score of 0.

BIOL 6510: In consultation with the instructor, each student will select a topic for a term paper. The topic chosen for the term paper must not be closely related to the topic chosen for the oral report. The paper must be typed in a 12-point font, double-spaced, and be 8 to 9 pages in length. Margins must be set at 1 inch on all

sides of the paper. At least three peer-reviewed, primary sources from the formal scientific literature (published between 2011 and 2016) must be used in writing the paper. These articles may not include the article(s) being used for the student's oral presentation. Complete copies of the chosen articles must be submitted to the instructor on the date noted in the schedule; these copies will be returned to the student. However, copies of the articles must be resubmitted to the instructor along with the term paper. A review article(s) may be used in addition to the primary references; however, the review article(s) should be used for background information and should not be the main focus of the paper. A copy of any review article that is used must also be submitted to the instructor along with the term paper. The main focus of the paper should be the three primary sources. It is expected that the student will critically discuss the three primary references. Plagiarized papers will receive a score of 0.

ORAL REPORTS. Each student is required to give an oral presentation during class. It will be about 15-20 minutes long, and will focus on a particular virus, viral outbreak, or other virus-related topic. Topics will be chosen from a list provided by the instructor, and a lottery will be used to determine the order in which students will select their topics and give their presentations. **Please note that the topics for a given student's written and oral reports must not be closely related.** Students should use the textbook as a starting source of information; in addition, they must use at least one additional, formal scientific article to prepare the presentation. This article must be a peer-reviewed, primary source, and it must have references inserted in the text and listed at the end. A complete copy of this article must be submitted to the instructor for approval by the date indicated in the course syllabus. This copy will be returned to the student. During the presentation, the student must show and explain at least two graphs, tables, or illustrations from the primary source. Use of PowerPoint software is required for the presentation. Immediately after the presentation, each student must give the instructor a folder that contains a printed copy of the PowerPoint presentation, a copy of any notes used during the presentation, and a printed copy of the primary source.

Students are expected to attend ALL student presentations. Material related to these presentations may be included on the examinations. **There will be no makeups for the oral presentations, except in the case of a documented, serious emergency.**

SPECIAL NOTE. Students who recently took (or are currently taking) BIOL 3100 Microbiology may not select a virology article or topic that is closely related to an article or topic that they researched (or are currently researching) in the microbiology course.

LATE ASSIGNMENTS. Students are expected to submit assignments on time. Substantial penalties will be applied to late assignments. For example, a written report that is more than one week late will receive a score of zero. The maximum score on a written report that is between two and seven days late will be 50 points.

Grading scale: ≥ 900 , A; 800-899, B; 700-799, C; 600-699, D; ≤ 599 , F

BIOL 4510:

Points:	Exam 1	210 points
	Exam 2	210 points
	Final Exam	250 points
	Written report (course objectives 2 & 3)	100 points
	Oral report (course objectives 2 & 3)	230 points

	Total	1000 points

BIOL 6510:

Points:	Exam 1	210 points
	Exam 2	210 points
	Final Exam	250 points
	Term Paper (course objectives 2 & 3)	150 points
	Oral report (course objectives 2 & 3)	180 points

	Total	1000 points