
Biology Department, College of Science & Mathematics, Valdosta State University
FALL 2020---COURSE SYLLABUS*

BIOL 4510 Virology (CRN 84424) -- 3 credit hours
BIOL 6510 Virology (CRN 84425)--- 3 credit hours
Class: MW 3:30-4:45 pm, 2022 Bailey Science Center

Instructor: Dr. Jenifer Turco
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Office: 2091 Bailey Science Center

Office Hours: Available via Collaborate: Tues. & Thurs., 4:15-5:00 pm. Available in physical office (we will go to a different location) or via Collaborate: Mon., 5:00-5:20 pm. Appointments may also be made. Links for office hours in Collaborate Ultra are posted in BlazeView.

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: Choose one of the following editions of **UNDERSTANDING VIRUSES:**
UNDERSTANDING VIRUSES, Third Edition
By Teri Shors
Jones & Bartlett Learning 2017
ISBN 978-1-284-02592-7

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.

The second edition of BASIC VIROLOGY is available electronically through the library and would also be useful.

Other Required Items for face-to-face instruction: (i) a cloth face covering or mask to be worn in the Bailey Science Center; (iii) ability to access BlazeView to download the class syllabus and handouts; (viii) ability to complete assignments and assessments and submit them online via BlazeView.

Other Required Items in the event that VSU must change to online instruction: (i) a calculator; (ii) ability to access BlazeView; (iii) ability to complete assignments and assessments and submit them online via BlazeView.

*This is a tentative syllabus. Changes to this syllabus will be announced during class or laboratory periods; alternatively, changes may be posted on BlazeView. **Graduate students who are taking BIOL 5100 must meet with the instructor to discuss additional course requirements & grading.** Meetings will take place in a room that allows us to maintain social distancing, or via Collaborate Ultra.

Special Notes to Students:

1. VSU cares about student success both on and offline, and a variety of resources are available to help students both academically and personally during the Fall 2020 semester.

One of the best resources is VSU's Coronavirus FAQ page located at <https://www.valdosta.edu/health-advisory/faq.php>. Information is available there about a variety of topics in VSU's return-to-campus plan. A website devoted to the health and wellness of VSU students can be seen at <https://www.valdosta.edu/administration/finance-admin/campus-wellness/student-resources.php>.

You can find information, including how you can access the Brightspace Pulse app that will allow you to view BlazeVIEW on your smartphone at <https://www.d2l.com/products/pulse/>. In BlazeVIEW, all VSU students have a course with guides for how to use tools in BlazeVIEW; search for "VSU BlazeVIEW Student Tutorial 2020."

2. As the Blazer Creed articulates, members of the VSU community are expected to live by the high standards of civility, integrity, and citizenship and embrace their responsibility as a member of the Blazer community. In recognition of this responsibility, and in response to the best available science and current guidance from the Centers for Disease Control and Prevention and the Georgia Department of Public Health, **every student must wear a face covering that covers their nose and mouth at all times while in any campus building, including in any classroom and in any lab.** This requirement is intended to protect the health and safety of all VSU students, the instructor, and the entire university community. Anyone attending class without a face covering will be asked to put one on or leave. Students should also be sure they maintain a distance of at least six feet away from their fellow students and instructor and are seated in a seat that is designated to ensure that distance. Students who refuse to wear face coverings appropriately or adhere to other stated requirements may face disciplinary action for Code of Conduct violations. Please insure that your face covering fits on your face firmly and is not loose.

3. Due to the current pandemic, this course is designed to allow for face-to-face classes as well as online classes. Please regularly check the Valdosta State University (VSU) Web site and the course Web site in BlazeView for updated information. In the event that there is a problem with the ventilation in the classroom (Room 2022), the class will meet in the microbiology lab, Room 2068. In this case, I will post a note on the classroom door.

4. Grades will be posted in BlazeView.

5. Students should consult the VSU Student Handbook, Catalog, Semester Calendar, Schedule of Classes, & Registration Guide (all available online) for information about VSU policies and procedures regarding registration, drop/add, and withdrawal. Thursday, Oct. 8, is the official midterm, and the withdrawal deadline is Thursday, Oct. 15. Students are not permitted to withdraw after this deadline except in cases of hardship.

6. 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) and 229-375-5871 (VP). For more information, please visit VSU's Access Office or email:access@valdosta.edu.

7. 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@valdosta.edu, 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 229-333-5463.

8. In general, music players and other similar electronic devices may not be used at any time in class. You are encouraged to use your laptop computer or tablet to log into Collaborate Ultra while you are attending class in person.

9. 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. Turnitin may be used for some assignments. Cheating or plagiarism will result in a grade of “0” for the quiz 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 quiz or assignment will receive a grade of “F” in the course.

10. **Food and drink may not be consumed in the classroom at any time. If you carry a bottle of water or other beverage with you, please be sure that it is sealed and put away before you enter the classroom.**

11. No disruptive behavior will be tolerated during class. A student who engages in disruptive behavior will be asked to leave.

12. 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 through SmartEvals. 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, and they will be able to access results only after they have submitted final grades. Before final grade submission, instructors will not be able to see any responses, but they can see the percentage of students who have or have not completed their SOIs. While instructors will not be able to see student names, an automated system will send a reminder email to those who have yet to complete their SOIs. Students who withdraw or drop a course will also be sent invitations to complete the Dropped Course Survey. Complete information about the SOIs, including how to access the survey, is available on the [SOI Procedures webpage](#).

13. 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 Learning Goals/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. 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 Learning Goals/Educational Outcomes:

Course objective (1) relates to VSU Core Curriculum Learning Goals 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 VSU Core Curriculum Learning Goals 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. 17	General course information Introduction to viruses Impact of viruses Epidemiology	Ch. 1 Ch. 8 (2 nd E); Ch. 6 (3 rd E)
Wed. Aug. 19	Molecular biology & host cell ***BIOL 6510 students should meet with the instructor soon to discuss topics for their extended papers. <u>Possible topics for oral presentations have been posted.</u>	Ch. 2 (2 nd E); Ch. 3 (3 rd E)
Mon. Aug. 24	Virus architecture and nomenclature Virus replication cycles ***Discussion about selection of topics for oral presentations	Ch. 3&4 (2 nd E); Ch. 2&3 (3 rd E)
Wed. Aug. 26	Discussion about papers on SARS-CoV-2 (see BlazeView) Virus replication cycles ***Select topics for oral presentations from list.	Ch. 4 (2 nd E); Ch. 3 (3 rd E)
Mon. Aug. 31	Virus replication cycles Laboratory diagnosis of viral diseases & Working with viruses in the research laboratory <u>Recitation</u>	Ch. 4 (2 nd E); Ch. 3 (3 rd E) Ch. 5 (2 nd E); Ch. 7 (3 rd E)
Wed. Sept. 2	Laboratory diagnosis of viral diseases & Working with viruses in the research laboratory <u>Recitation</u>	Ch. 5 (2 nd E); Ch. 7 (3 rd E) To be announced
Mon. Sept. 7	Labor Day (holiday)	
Wed. Sept. 9	Mechanisms of viral entry & spread of infection in the body <u>First journal entry is due</u>	Ch. 6 (2 nd E); Ch. 4 (3 rd E)
Mon. Sept. 14	Mechanisms of viral entry & spread of infection in the body Host resistance to viral infections ***Primary source for oral presentation is due (BlazeView) <u>(BIOL 4510&BIOL 6510)</u>	Ch. 6 (2 nd E); Ch. 4 (3 rd E) Ch. 7 (2 nd E); Ch. 5 (3 rd E)
Wed. Sept. 16	Host resistance to viral infections	Ch. 7 (2 nd E); Ch. 5 (3 rd E)

TENTATIVE CLASS SCHEDULE

Date	Topics	Related material in text
Mon. Sept. 21	Host resistance to viral infections	Ch. 7 (2 nd E); Ch. 5 (3 rd E)
Wed. Sept. 23	History of medicine, clinical trials, gene therapy, & Xenotransplantation ***References for extended paper are due. *** (BIOL 6510)	Ch. 9 (2 nd E); Ch. 17 (3 rd E)
Mon. Sept. 28	Viruses and cancer ***Written report is due. *** (BIOL 4510) <u>Brief informal student presentations on written reports/papers (BIOL 4510/6510)</u>	Ch. 10 (2 nd E); Ch. 16 (3 rd E)
Wed. Sept. 30	Viruses and cancer Poliovirus and other enteroviruses	Ch. 10 (2 nd E); Ch. 16 (3 rd E) Ch.11 (2 nd E); Ch. 8 (3 rd E)
Mon. Oct. 5	Poliovirus and other enteroviruses Influenza viruses	Ch.11 (2 nd E); Ch. 8 (3 rd E) Ch.12 (2 nd E); Ch. 9 (3 rd E)
Wed. Oct. 7	Influenza viruses Rabies <u>Recitation</u>	Ch.12 (2 nd E); Ch. 9 (3 rd E) Ch.13 (2 nd E); Ch. 13 (3 rd E)
Mon. Oct. 12	Rabies Poxviruses <u>Recitation</u>	Ch.13 (2 nd E); Ch. 13 (3 rd E) Ch.14
Wed. Oct. 14	Poxviruses Herpesviruses	Ch. 14 Ch. 15 (2 nd E); Ch. 11 (3 rd E)
Mon. Oct. 19	Poxviruses Herpesviruses	Ch. 14 Ch. 15 (2 nd E); Ch. 11 (3 rd E)
Wed. Oct. 21	Herpesviruses Human immunodeficiency virus ***Extended paper is due. *** (BIOL 6510)	Ch. 15 (2 nd E); Ch. 11 (3 rd E) Ch.16 (2 nd E); Ch. 12 (3 rd E)
Sat. Oct. 24	<u>To be announced</u>	
???????????????	<u>Additional online makeup period – To be announced</u>	
Mon. Oct. 26	Human immunodeficiency virus Hepatitis viruses <u>Assigned reading: New viruses & viruses that are reemerging, Ch.18 (2nd E); Ch.15 (3rd E)</u>	Ch.16 (2 nd E); Ch. 12 (3 rd E) Ch.17 (2 nd E); Ch. 10 (3 rd E)
Wed. Oct.28	Prions & viroids Other viruses	Ch. 19 (2 nd E); Ch. 18 (3 rd E) Ch. 20-21 (2 nd E); Ch. 19-20 (3 rd E)

TENTATIVE CLASS SCHEDULE

Date	Topics	Related material in text
Mon. Nov. 2	Other viruses Student oral presentations	Ch. 20-21 (2 nd E); Ch. 19-20 (3 rd E)
Wed. Nov. 4	Student oral presentations	
Mon. Nov. 9	Student oral presentations	
Wed. Nov. 11	Student oral presentations	
Mon. Nov. 16	Student oral presentations	
Wed. Nov. 18	Student oral presentations	
Mon. Nov. 23	Student oral presentations	

THANKSGIVING HOLIDAY

Mon. Nov. 30	Online; To be announced
Wed. Dec. 2	Online; To be announced
Mon. Dec. 7	Online; To be announced
Thurs. Dec. 10	Scheduled time for final exam: 2:45-4:45 pm

ATTENDANCE & PARTICIPATION. 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 (either remotely or in person, as indicated in the schedule), particularly when student recitations and reports are scheduled.

QUIZZES, ASSIGNMENTS, AND RECITATIONS. Traditional, long examinations will not be given. However, some online quizzes will be given through BlazeView. These may include questions of the multiple-choice, matching, true-false, short answer, and problem formats. Assignments will also be given in BlazeView. There will be some recitations. During recitations, students may be asked to explain and/or diagram a process or topic, or to work a problem. They may also be asked to share their latest journal entry. There will be no make-ups for the recitations, except in the event of a documented, serious emergency. Make-ups for the recitations may be scheduled on Saturday, Oct. 24, 2020. It may be necessary to schedule additional recitations as part of the regular course schedule.

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

BIOL 4510: Each student must select and read one article (approximately 4 to 10 pages per article) about viruses (published between 2012 and 2020) and submit a complete copy of the article plus a 3-page, typed, double-spaced report summarizing it. These are to be submitted in BlazeView. For the written report, margins must be set

at 1 inch on all sides of the paper, and a 12-point font must be used. A separate title page (a fourth page) that has the topic, the student's name, and the date, must also be included. Please check the line spacing in Word (or other word processing program) and be sure that extra space is not inserted below each line. 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. The article may be an informal article from *Science* or other scientific publications, an article from *Scientific American*, a short review article from *Science* or *Emerging Infectious Diseases*, an article from *Morbidity and Mortality Weekly Report*, a formal article from other scientific journals, etc. The report will be worth 100 points. Turnitin will most likely be used to assess plagiarism, and details will be given in BlazeView. A plagiarized report will receive a score of 0. No direct quotations from the article are permitted in the paper. **On the day the report is due (Monday, Sept. 28), each student should come to class prepared to speak to the class about his/her article/report (2-3 minutes).**

BIOL 6510: In consultation with the instructor, each student will select a topic for an extended paper. The topic chosen for the extended 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. A separate title page (a 9th or 10th page) that has the topic, the student's name, and the date, must also be included. Please check the line spacing in Word (or other word processing program) and be sure that extra space is not inserted below each line. 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 2012 and 2020) 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 in BlazeView on the date noted in the schedule. 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 in BlazeView.) 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. Turnitin will most likely be used to assess plagiarism, and details will be given in BlazeView. A plagiarized report will receive a score of 0. No direct quotations from the article are permitted in the paper. Plagiarized papers will receive a score of 0. No direct quotations from the sources are permitted in the paper. **On Monday, Sept. 28, each student should come to class prepared to speak to the class about his/her topic (2-3 minutes).**

ORAL REPORTS. Each student is required to give an oral presentation during class. It will most likely 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. Most likely, the instructor will use a list of random numbers to determine the order in which students select their topics and give their presentations. If you have other ideas about how to do this, please notify the instructor. **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, each student 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 in BlazeView for approval by the date indicated in the course syllabus. During the presentation, the student must show and explain at least two graphs, tables, or illustrations from the primary source. If the graphs, tables, or illustrations are simple and easily explained, it is expected that the student will present additional ones. Use of PowerPoint software is required for the presentation. Immediately after the presentation, each student must submit (in BlazeView) a complete copy of his/her PowerPoint presentation, as well as a copy of any notes used during the presentation. Students are expected to attend all student presentations. **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.

JOURNAL ASSIGNMENT: One of the assignments will be to keep an electronic journal related to viruses and this virology course. In the journal, you must make at least one entry about every 2-3 weeks; you should have at least 5 entries in your completed journal. Your first journal entry is due in BlazeView on Sept. 9. After that date, you should regularly submit your updated journal in BlazeView so your latest version is available for the instructor to view. There are many possibilities for journal entries, and entries do not need to be very long. For example, you could write a paragraph about a virus that interests you and what you learned about the virus using reliable Internet resources. Or you could briefly discuss an interesting article that you found about viruses, and provide a link to the article. Or you could write a reaction to some of the information presented in the textbook. Or perhaps, you might have had a question about viruses, the articles suggested in class, or the class material, and you searched for and found the answer on your own. In this situation, your journal entry could document this work. Another possibility would be to find a news story or newspaper article related to viruses and write a summary and reaction to the article. If you found errors in the article, you could note them. Or you could find and evaluate an Internet resource that has information about viruses. Finally, you might locate information about the status of the current pandemic (or another viral outbreak) and react to that information. Of course there are other possibilities. My hope is that keeping this journal will help you to learn more about viruses and be more involved with the material throughout the semester. Journals must be typewritten.

LATE ASSIGNMENTS. Students are expected to submit assignments on time. Unless there is a documented, serious emergency, 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 75 points.

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

BIOL 4510: All assignments relate to the three course objectives.

Points:

Class attendance, participation, short assignments, & discussions	180 points
Journal Assignment (BlazeView)	200 points
Quizzes (BlazeView)	150 points
Recitations	150 points
Written report/short oral pres.	100 points
Oral presentation	220 points

Total	1000 points

BIOL 6510: All assignments relate to the three course objectives.

Points:

Class attendance, participation, short assignments, & discussions	180 points
Journal Assignment (BlazeView)	200 points
Quizzes (BlazeView)	150 points
Recitations	150 points
Extended paper/short oral pres.	300 points
Oral presentation	220 points

Total	1200 points