

SYLLABUS*
VIROLOGY - Fall 2006

BIOLOGY 4510 (CRN 80892)
BIOLOGY 6510 (CRN 80909)

Instructor: Dr. Jenifer Turco
Email: jturco@valdosta.edu
Telephone: 229-249-4845
Office: 2091 Bailey Science Center
Office hours: 11:00-11:50 am, Tues. & Thurs.; or by appointment.
Class times: Tues. & Thurs., 9:30 - 10:45 pm, 1025 Biology-Chemistry Building

Textbook: **Basic Virology, second edition**
Edward K. Wagner and Martinez J. Hewlett
Blackwell Science, Inc., 2004

Required materials: Calculator
3-1/2 inch computer diskette or compact disk for oral presentation (**Please note: a jump drive may not be used.**)

The **OBJECTIVES** of this course are:

- (1) To help students acquire an understanding of viruses and other non-cellular infectious agents.
 - (2) To provide opportunities for students to improve their skills in oral and written communication.
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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 are advised to consult the VSU Student Handbook, the Undergraduate (or Graduate) Catalog, Fall Semester Calendar, Schedule of Classes, and Registration Guide for information about VSU policies and procedures regarding registration, drop/add, and withdrawal. October 6 is midterm. Students are not permitted to withdraw after midterm except in cases of hardship.
 3. Students requiring classroom accommodations or modifications because of documented disability should discuss this need with the instructor at the beginning of the quarter. These students must contact the Access Office for Students with Disabilities, 1115 Nevins Hall. The phone numbers are 245-2498 (voice) and 210-1348 (tty).
 4. Cell phones may not be used during examinations or at any time in class.
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***This is a tentative syllabus. Changes to this syllabus will be announced during class.**

CLASS SCHEDULE

Date	Topics	Related material in text
Tues. Aug. 15	General course information Introduction to viruses Impact of viruses Viruses: composition, structure, classification Virus replication in the cell Other noncellular infectious agents	Chapters 1 and 5
Thurs. Aug. 17	Virus replication and viral pathogenesis	Chapter 2

CLASS SCHEDULE

Date	Topics	Related material in text
Tues. Aug. 22	Viral disease	Chapter 3
Thurs. Aug. 24	Patterns of some viral diseases of humans	Chapter 4
Tues. Aug. 29	Virus replication: Entry of viruses into host cells Assembly and release of new virions	Chapter 6
Thurs. Aug. 31	Vertebrate immune response to viruses Measurement of the immune response ***First written report is due*** (BIOL 4510)	Chapter 7
Tues. Sept. 5	Vertebrate immune response to viruses Measurement of the immune response Examples of viral responses to host immunity	Chapter 7
Thurs. Sept. 7	Antiviral strategies (vaccines, cytokines, drugs)	Chapter 8
Tues. Sept. 12	EXAM 1 (material covered through Sept. 7)	
Thurs. Sept. 14	Antiviral strategies (continued)	Chapter 8
Tues. Sept. 19	Visualization and enumeration of viruses Producing viruses and measuring their biological activities	Chapters 9 and 10
Thurs. Sept. 21	Characterization of structural components of viruses	Chapter 11
Tues. Sept. 26	Study of viral products expressed in host cells	Chapter 12
Thurs. Sept. 28	Nucleic acid replication, transcription, translation (Read chapter 13 on your own. It will not be covered in class.) Molecular genetics of viruses (selected topics)	Chapter 13 Chapter 14
Tues. Oct. 3	Molecular genetics of viruses (selected topics) ***Second written report (BIOL 4510) or term paper (BIOL 6510) is due*** (attendance required) Students should be prepared to briefly discuss their reports or papers during class.	Chapter 14
Thurs. Oct. 5	Viral replication strategies Positive sense RNA viruses Negative-sense/ambisense RNA viruses	Chapters 15 and 16
Tues. Oct. 10	Negative-sense/ambisense RNA viruses Double stranded RNA viruses	Chapter 16
Thurs. Oct. 12	EXAM 2 (material covered through Oct. 10)	

CLASS SCHEDULE

Date	Topics	Related material in text
Tues. Oct. 17	FALL BREAK	
Thurs. Oct. 19	DNA viruses	Chapter 17 and 18
Tues. Oct. 24	DNA viruses	Chapters 18 and 19
Thurs. Oct. 26	DNA viruses	Chapter 19
Tues. Oct. 31	Viruses using reverse transcription	Chapters 20 and 21
Thurs. Nov. 2	Viruses using reverse transcription Viroids and Prions	Chapter 21 Chapter 16
Tues. Nov. 7	Student oral reports and discussion (attendance required)	
Thurs. Nov. 9	Student oral reports and discussion (attendance required)	
Tues. Nov. 14	Student oral reports and discussion (attendance required)	
Thurs. Nov. 16	Student oral reports and discussion (attendance required)	
Tues. Nov. 21	Student oral reports and discussion (attendance required)	
	THANKSGIVING HOLIDAYS	
Tues. Nov. 28	Student oral reports and discussion (attendance required)	
Thurs. Nov. 30	Student oral reports and discussion (attendance required)	
Thurs. Dec. 7	COMPREHENSIVE FINAL EXAM, 10:15 am - 12:15 pm	

Attendance

Attendance may be checked in class. Students are required to attend and participate during all classes in which student 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. Each examination will be worth 220 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 185 points rather than 220 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.

Written reports

BIOL 4510: Each student must select and read two articles (approximately 3 to 10 pages per article) about viruses (published between 2002 and 2006) and submit a **complete** copy of each article plus a 2-page, typed, **double-spaced** report summarizing each article. 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. Each report will be worth 50 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 should 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 7 to 8 pages in length. Margins must be set at 1 inch on all sides of the paper. At least three peer-reviewed articles from the scientific literature must be used in writing the paper. Complete copies of these articles must be submitted to the instructor along with the term paper. Two of the articles must be primary references; the remaining article may be a review article or a primary reference. The main focus of the paper should be the two (or three) primary references. If a review article is used, it should be used for background information and should not be the main focus of the paper. Plagiarized papers will receive a score of 0.

Oral report (BIOL 4510 & 6510)

Each student will be required to give an oral report based on a formal scientific article selected from a list of articles provided by the instructor. A lottery will be used to determine the order in which students select their articles and give their presentations. Students are required to use library and computer resources to obtain background information about the subjects of their articles. Each student must submit a formal, complete, and organized list of references used before presenting the oral report. The library has several books in the reference section that may be useful (for example, *Encyclopedia of Virology*, *Infectious Diseases*, *Encyclopedia of Infectious Diseases*, and *Fields Virology*). In addition, the instructor has placed several books about virology and cell culture on reserve in the library. Students are encouraged to use Powerpoint software for preparing their oral presentations. Those who do not use Powerpoint should use other visual aids. Students are expected to attend ALL student presentations. Material related to these presentations may be included on the final examination. **There will be no makeups for the oral presentations.**

Grading

Points for **BIOL 4510** are allocated as follows:

Exam 1	220 points
Exam 2	220 points
Final Exam	220 points
Written reports	100 points
Oral report	240 points

Total 1000 points

Points for **BIOL 6510** are allocated as follows:

Exam 1	220 points
Exam 2	220 points
Final Exam	220 points
Term paper	170 points
Oral report	170 points

Total 1000 points

Grading scale:

900-100, A	800-899, B
700-799, C	600-699, D
≤ 599, F	