

SPECIAL NOTES TO STUDENTS (continued from preceding page):

8. Students are expected to read and adhere to the following: (i) the VSU Student Code of Conduct as described in the VSU Student Handbook (<https://www.valdosta.edu/administration/student-affairs/student-conduct-office/student-handbook.php>) and (ii) the Biology Department policy on plagiarism (available online through the departmental Web site at <http://www.valdosta.edu/colleges/arts-sciences/biology/documents/resources/PlagiarismPolicy.pdf>). 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 assignment and a grade of unsatisfactory (“U”) for the course. In addition, the instructor may complete a Report of Academic Dishonesty and submit it to the VSU Student Conduct Office.

9. 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

During successful completion of this course, you will:

- (1) Research the formal, peer-reviewed, scientific literature to obtain information (both review articles and primary sources) about a specific topic in biology. Based on your research, select a much more specific subtopic on which to focus your work.
- (2) Read and organize the information collected. Select 2 (or possibly 3) review articles that you will use in writing the background section of your paper plus 2 (or possibly 3) primary sources that you will thoroughly analyze and discuss in the remainder of the paper. Submit your review articles and primary sources to the instructor.
- (3) Demonstrate an understanding of the information collected by preparing an original, well-organized, and carefully-written paper on the topic.
- (4) Demonstrate an understanding of the information collected by giving a well-organized, thorough, oral presentation based on **one** of the primary scientific sources used in writing the paper. PowerPoint software must be used during the oral presentation, and the presentation should be 18 to 22 minutes long (with 5 additional minutes for questions).
- (5) Attend and prepare a **very brief** summary of a specified minimum number of outside presentations selected from a list provided by the instructor. (Details are given below; outside presentations are generally about one hour in length.)
- (6) Take the ETS Major Field test in biology and score at least 140.
- (7) Complete the departmental Senior Exit Questionnaire.

Alignment of Course Objectives with Educational Outcomes:

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, which is available online through <http://www.valdosta.edu>. In this syllabus the Biology Undergraduate Educational Outcomes are designated as B1-B5, and they are available at

<http://catalog.valdosta.edu/undergraduate/academic-programs/arts-sciences/biology/>

This course addresses the following educational outcomes:

VSU General Education Outcomes VSUA1, VSUC, and VSUD

Biology Undergraduate Educational Outcome B1

Course Theme: *Bacteria That Cause Disease in Humans*

Possible pathogenic bacteria (topics) will include the following: *Staphylococcus aureus*, *Streptococcus pyogenes*, *Streptococcus pneumoniae*, *Streptococcus agalactiae*, *Streptococcus mutans*, *Clostridium botulinum*, *Clostridium*

tetani, Clostridium perfringens, Bacillus anthracis, Listeria monocytogenes, Mycobacterium tuberculosis, Mycobacterium leprae, Mycobacterium avium-intracellulare, Mycoplasma pneumoniae, Neisseria gonorrhoeae, Treponema pallidum, Salmonella, Shigella, Vibrio cholerae, Bartonella henselae, Bordetella pertussis, Burkholderia pseudomallei, Coxiella burnetii, Haemophilus influenzae, Legionella pneumophila, Chlamydia trachomatis, Campylobacter jejuni, Helicobacter pylori, Vibrio vulnificus, Borrelia burgdorferi, Anaplasma phagocytophilum, Pseudomonas aeruginosa, Bacteroides fragilis, Chlamydomphila pneumonia, Aeromonas hydrophila, Acinetobacter baumannii, Klebsiella pneumoniae, Enterococcus faecium.
Please keep in mind that some bacteria may be opportunistic pathogens.

Please note that if you are currently taking BIOL 3100, you must select a different topic for your oral presentation in that class.

SPECIFIC COURSE REQUIREMENTS/ASSIGNMENTS:

1. Students are expected to attend all scheduled class meetings. Any student who cannot attend one or more sessions should discuss this matter with the instructor prior to the absence. It is expected that all members of the class will participate in a brief discussion after each oral presentation is given. Therefore, be prepared to ask meaningful questions, critique the quality of the material presented, and raise meaningful issues related to the topic discussed.
2. Students will read the information on academic integrity (see item #8 in Special Notes to Students on page 2 of this syllabus). A copy of Appendix A of the VSU Student Code of Conduct and a copy of the Biology Department policy on plagiarism will be provided in class. Each student will sign an acknowledgement form indicating that these policies have been read and understood.
3. Each student will attend and summarize several outside presentations selected from a list provided by the instructor. The actual required number will be provided once the Biology Department Seminar schedule has been finalized. Outside presentations are generally approximately one hour in length. In each instance, a presentation summary must be done on the form provided, and it must be submitted to the instructor. The summary must include the following: date, time, and location of the presentation; the full name of the speaker; the title of the presentation; and a few sentences about the material that was presented.

Possible outside presentations include the following:

(i) The Biology Department seminar generally takes place on Tuesdays from 12:30-1:45 pm in Room 1023, Bailey Science Center. This time period is part of the BIOL 4900 class schedule. You are expected to attend all of these seminars, and to be on time. The schedule for these presentations will be announced in BlazeView as soon as it is available. The instructor (or her representative) will give you a dated copy of the presentation summary form as you enter the seminar room. You must complete this dated form during the seminar and give it to the instructor (or her representative) immediately after the seminar. Please note that none of these dated forms will be handed out once the seminar has started.

(ii) Other outside presentations may include those given as part of the VSU Undergraduate Research Symposium, which will take place from April 15-19, 2019. Our class schedule on Wednesday, April 17, has been left open so that you may attend any symposium sessions that are taking place during our regular class time. Please be aware that there are special requirements for these presentations in that a student must attend 3 student oral presentations, 3 poster presentations, the full debate session, or the full video competition in order to receive credit for one outside presentation. A combination of oral and poster presentations (for example, 2 oral presentations plus one poster presentation) can also be used to meet the requirements for one outside presentation. In general, presentation summaries must be submitted to the instructor within one week of the date of the presentation. However, the last day for submitting presentation summaries related to the VSU Undergraduate Research Symposium is Wednesday, April 24.

(iii) Another possible outside presentation is the Connell Lecture (Sponsored by the Clyde Eugene Connell Visiting Lecture Program & VSU Department of Biology). Date, time, and location will be announced. Most likely, this lecture will be scheduled in the evening, and it is recommended. **Presentation summaries for this lecture must be submitted to the instructor during class on the Wednesday immediately after the Connell lecture.**

4. Each student will select a general topic from the list (due January 23) and a specific focus (due January 23 or January 30) for the research to be conducted. These topics must be submitted to the instructor on the indicated dates. Once a topic has been chosen it may not be changed.

5. Each student will hand in complete, readable copies of the references to be used for the paper (including all tables and figures). These are due on Feb. 13; however, they can be submitted on Feb. 6, if desired. The references must include 2 (or possibly 3, depending on the length) peer-reviewed, formal scientific articles that are primary sources; these primary sources must deal with the specific focus that you chose for your research. The submitted references must also include 2 (or possibly 3) peer-reviewed, formal scientific articles that are review articles. In some instances, authoritative books and book chapters by experts on the topic may be used in addition to the review articles, but they are not required, and they may not be substituted for the review articles or primary sources. Textbooks may not be used as sources. Primary sources must have been published between 2010 and 2019. It is suggested that the student make an effort to locate recently-published review articles and book chapters. All sources must list references at the end, and the references must be cited within the text of the articles or book chapters. You may use interlibrary loan; however, this process may take additional time. Please note that textbooks, Web sites, informal Internet articles or fact sheets, newspaper articles, magazine articles, book reviews, and letters to the editor are generally NOT acceptable sources. Each primary source must be 4 or more pages in length. Each primary source must also contain 3 or more tables and/or figures per source. The copies of the references submitted will be returned to the student; however, the references must be given to the instructor again when the paper is submitted. Please be certain that you read the references before you initially submit them. You must use your submitted references in your paper, so please choose them carefully.

6. In consultation with the instructor, each student will select the primary source that will be the focus of his/her oral presentation. This selection is due on Feb. 20. Once the primary source to be used for the oral presentation has been chosen, it cannot be changed.

7. Each student will hand in an original, well-organized, and carefully-written paper on the topic. The paper must be in review format. The paper must include the following: (i) the Title and Author, (ii) a Summary; (iii) the main body of the paper; and (iv) the Literature Cited section. You should have written a complete draft of your paper (including the references and all sections) by March 6. A revised draft of your paper including the references and all sections is due for peer review during class on March 13. Another member of the class will read your paper, provide feedback, and look for common problems with references. Be sure to proof-read your paper and make corrections before submitting it. You will not have an opportunity to revise your paper for any reason, so please do your best work! Final papers are due on March 27, but can be submitted earlier, if desired.

Your paper must be at least 8 pages, but must not exceed 10 pages in length, excluding the Literature Cited section. The first page should include the Title and Author, plus a Summary of your paper (approximately 300 words). The paper must be typed in 12-point font, double-spaced, with margins set at 1 inch on all sides of the pages. Please carefully check your word processing program to be sure that additional space is not inserted below each line. A printed copy of the paper, as well as an electronic copy, must be submitted to the instructor.

About one-third of the main body of your paper must be devoted to general background information on the pathogen, its properties and transmission, the diseases it causes in humans, major signs and symptoms of these diseases; major virulence factors of the pathogen; treatment of and prevention of these diseases; and whether or not a vaccine is available. The remaining two-thirds of the main body of the paper must be devoted to a more

specific aspect of the topic. In this section you will cover and discuss your primary sources. Examples of more specific aspects of your topic might include: antibiotic resistance in the particular pathogen; properties/research on a particular virulence factor of the pathogen; progress in development of a vaccine for prevention of diseases due to the pathogen; progress in developing better treatments for a specific disease(s) caused by the pathogen; or recent outbreaks of disease due to the pathogen. There are, of course, many other possibilities.

Papers may not include any direct quotations or any figures or tables from the references. A paper that is constructed from direct quotations does not convey an understanding of the material. **Please take care to avoid plagiarism.**

For citing sources in the body of the paper, and for preparing the Literature Cited section, students should follow the Council of Science Editors (CSE) Name-Year Documentation guidelines, which are available online at https://writing.wisc.edu/Handbook/DocCSE_NameYear.html. This resource is part of the University of Wisconsin-Madison Writer's Handbook, which is located on the Web site of The Writing Center @ The University of Wisconsin – Madison (<https://writing.wisc.edu/index.html>)

8. Your oral presentation must be focused on a single primary source selected by you and your instructor from the references in your paper. It must use PowerPoint software, and it must include: (i) brief, general background on the pathogen; (ii) background specific to the primary source; (iii) the questions that the authors of the primary source addressed; (iv) the methods that the authors used to answer the questions; (v) the results of the experiments; and (vi) interpretation and discussion of the results.

To obtain a satisfactory grade, you must (i) look at all of the data and walk the audience through the data; do not merely accept the authors' interpretations without critical analysis; (ii) include appropriate figures and/or tables; (iii) use appropriate text font on the PowerPoint slides; (iv) explain your presentation in a way that is understandable to your classmates; and (v) submit a readable, printed copy of the PowerPoint slides to the instructor immediately after the presentation. In addition, you must not read your presentation, although you may use index cards as aids during your talk. Reading of your presentation does not demonstrate understanding.

There will be no make-ups for the oral presentations except in the event of a documented, serious emergency.

9. You must contact the VSU Testing Office located in Powell Hall to schedule a day and time to take the Major Field test. A score of at least 140 is required to achieve a grade of Satisfactory. You are required to take the Major Field test by no later than mid-term (Thursday, March 7, 2019). If you score less than 140, you must continue to re-take the test until you reach 140. The Biology Department will pay for your initial test; you are responsible for all fees associated with retaking the test. **No scores on the Major Field test will be accepted after NOON on Monday, May 6, 2019.** If the instructor has not received a score of 140 or more for you by that time, you will receive an Unsatisfactory grade (U) for the course.

TENTATIVE CLASS SCHEDULE (Subject to Change)

Please remember that you must take the Major Field Test by midterm (March 7)

Tues. Jan 15	Class will not meet on this day
<u>Wed. Jan. 16</u>	Course Information; possible topics; academic integrity policies
Tues. Jan 22	No Biology Department seminar is scheduled on this day.
<u>Wed. Jan. 23</u>	Selection of Topics (Once a topic is selected, it cannot be changed.) Determining a specific aspect of your topic on which to focus your research Program 1 on antibiotic resistance

Tues. Jan. 29
Wed. Jan. 30

Genetic Genealogy: Finding Your Roots (Video) – attendance is optional
Discussion, questions, etc.
Hand in the specific aspect of your topic on which you will focus.
Program 2 on antibiotic resistance

Tues. Feb. 5
Wed. Feb. 6

To be announced
Discussion, questions, etc.; References may be submitted, if desired. (You must use the references that you submit, so please choose them carefully!)

Tues. Feb. 12
Wed. Feb. 13

Dr. John L. Snyder (UGA Tifton)
References are due (You must use the references that you submit, so please choose them carefully!)

Tues. Feb. 19
Wed. Feb. 20

Antonio Ortiz (MS, VSU; PhD Candidate, CNRS/U of Paris, France)
Discussion, questions, etc. References will be returned to students.
Determination of primary source for oral presentation; instructor will meet with students individually during today's scheduled class period.
Once the primary source to be used for the oral presentation is chosen, it cannot be changed.

Tues. Feb. 26
Wed. Feb. 27

To be announced
Discussion, questions, common problems with references, etc.
Senior Exit Questionnaire

Tues. Mar. 5
Wed. Mar. 6

Kelsey Lewis (PhD Candidate, University of Florida)
Discussion, questions, etc.
You must bring a complete draft of your paper that includes all sections and references to class on this day. Please check it according to the following list and make revisions as needed.

- (i) Is the paper organized, clear, and logical?
- (ii) Does the paper demonstrate your knowledge and understanding of the topic?
- (iii) Does the paper cover the required content?
- (iv) Are there any signs of plagiarism in the paper?
- (v) Do the format and length of the paper correspond to the guidelines provided?
- (vi) Are there any direct quotations in the paper?
- (vii) Does the paper have errors in spelling and grammar?
- (viii) Are the references cited in the correct format?
- (ix) Did you cite the correct reference in each instance?
- (x) Does the format of the "Literature Cited" section follow the guidelines?
- (xi) Compare the "Literature Cited" section with the references that you cited in the body of paper. Did you cite any references in your paper that are not listed in the "Literature Cited" section?
- (xii) Did you list any references in the "Literature Cited" section that you did not actually use and cite in your paper?
- (xiii) You must cite only those references that you actually read and used. Copies of all of these references must be given to the instructor when you turn in your paper.
- (xiv) A primary source is cited for the contributions of the authors. It should not be cited for background information that the authors mentioned in their introduction.
- (xv) When you are using a review article that cites the work and contributions of many other authors/researchers, it is important to clarify this point in your writing.

Tues. Mar. 12 **To be announced**
Wed. Mar. 13 **A revised draft of your written paper (including references & all sections) is due in class for peer review. Another member of the class will read your paper and provide feedback. (See list on preceding page.)**

SPRING BREAK

Tues. Mar. 26 **Dr. Brian Ring (VSU)**
Wed. Mar. 27 **Papers are due (both printed & electronic versions must be submitted)
 YOU WILL NOT HAVE AN OPPORTUNITY TO REVISE YOUR PAPER FOR ANY REASON, SO PLEASE DO YOUR BEST WRITING!!**

Tues. Apr. 2 **To be announced**
Wed. Apr. 3 **Oral Presentations**

Tues. Apr. 9 **Dr. Jonghoon Kang (VSU)**
Wed. Apr. 10 **Oral Presentations**

Tues. Apr. 16 **To be announced**
VSU Undergraduate Research Symposium (See schedule online for locations.)
Wed. Apr. 17 **VSU Undergraduate Research Symposium (See schedule online for locations.)**

Tues. Apr. 23 **To be announced**
Wed. Apr. 24 **Return assignments, etc.**
 Also, possible make-up oral presentation(s) (only in the event of a documented, serious emergency)

Tues. Apr. 30 **No Biology Department seminar is scheduled on this day.**
Wed. May 1 **Return assignments, etc.**

GRADING – This course is graded Satisfactory (S) or Unsatisfactory (U).

*Selection of general topic (W, Jan. 23)	10 points
*Selection of specific focus of research (W, Jan. 30)	15 points
*Submission of references (W, Feb. 13)	20 points
*Selection of primary source for oral presentation in consultation with instructor (W, Feb. 20)	15 points
*Complete draft of written paper due in class (W, Mar. 6)	35 points
**Revised draft of written paper due in class for peer review (W, Mar. 13)	35 points
*Written paper due (W, Mar. 27)	380 points
Oral PowerPoint presentation on primary source (Schedule for W Apr. 3 & Apr. 10 to be determined)...	360 points
*Submission of printed PowerPoint slides immediately after scheduled presentation.....	20 points
Attendance at a specified minimum number of outside presentations	20 points
*Timely submission of summaries of the outside presentations.....	25 points
Taking the ETS Major Field test in biology and scoring at least 140 (see p. 5 for deadlines)	20 points
Completion of departmental Senior Exit Questionnaire (W, Feb. 22)	20 points
Attendance at all scheduled classes & participation in class discussions.....	25 points
Total	1000 points

PLEASE SEE ADDITIONAL REQUIREMENTS AND INFORMATION ON THE NEXT PAGE.

GRADING (CONTINUED)

There are 4 requirements to obtain a Satisfactory (S) grade in the course:

1. Satisfactory completion of ALL requirements & assignments ON TIME (see above list)
2. Scoring at least 266 points on the written paper
3. Scoring at least 252 points on the oral presentation & 14 points on the printed PowerPoint slides
4. Obtaining a total of at least 700 points in the course.

The grade is Unsatisfactory (U) for a student who fails to meet one or more of the above requirements. In addition, as previously noted, cheating or plagiarism will result in a grade of “0” for the assignment and a grade of unsatisfactory (“U”) for the course.

Deductions to grade and additional policies:

--Each absence from class after the first absence will result in the loss of 50 points.

--For any assignment marked with a * in the GRADING list, a late submission will result in the loss of 20 points per day. All assignments marked with a * are due on a specific Wednesday. **In order to be accepted, a late assignment (marked with a *) MUST be submitted by 3 pm on the Friday immediately after the specific Wednesday when the assignment was due. Late assignments will not be accepted after this firm deadline.**

--There will be no make-ups for the oral presentations except in the event of a documented, serious emergency.

--Please note the firm deadline for taking the Major Field test and scoring 140. (See page 5.)

--The Senior Exit Questionnaire must be completed according to the schedule, except in the event of a documented, serious emergency.

