
Biology Department, College of Science & Mathematics, Valdosta State University
SPRING 2022---COURSE SYLLABUS*#

BIOL 3100, Sections A & B. Microbiology (CRN 21977 & 21978) - 4 credit hours
BIOL 5100, Sections A & B. Microbiology (CRN 22006 & 23606) – 4 credit hours
Class: TR 8:00-9:15 am, 2022 Bailey Science Center
Laboratory: TR 3100/5100 Section A 10:00-11:25 am, 2068 Bailey Science Center
TR 3100/5100 Section B 2:00-3:25 pm, 2068 Bailey Science Center

Instructor: Dr. Jenifer Turco Email: jturco@valdosta.edu

per week.

y. Two 1.5-hour laboratory periods

Required Textbook:

BROCK BIOLOGY OF MICROORGANISMS, Sixteenth Edition
by Michael T. Madigan, Kelly S. Bender, Daniel H. Buckley, W. Matthew Sattley, and David A. Stahl. Pearson
Education, Inc. 2021. PLEASE see below for important details:

The required textbook (see above) is being offered to students as an etextbook (ISBN 9780135845554) via the DAY
ONE program developed by Pearson Education, the Bookstore, and VSU. Students may also opt-out of the DAY
ONE program and select one of the following alternate options for the textbook (select one): (1) traditional, hard-
cover book (ISBN 9780134874401); (2) unbound loose-leaf book (if available); (3) "Mastering Microbiology" with
Etext for BrockBiology of Microorganisms (if available). Please note that "Mastering Microbiology" is an online
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Special notes to students:

FACE COVERINGS AND SOCIAL DISTANCING FOR REDUCTION OF TRANSMISSION OF COVID-19

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 members of the Blazer community. In recognition of this responsibility, and in respons

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Course Objectives (continued):

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Educational Outcomes are designated as B1-B5 (<http://catalog.valdosta.edu/undergraduate/academic-programs/sciences-mathematics/biology/>) and GB1-GB4 (<http://ca> h

BIOLOGY 3100/5100. Microbiology – Plans and Class Topics

First day of class – Tues., Jan. 11

General course information; special considerations
Microorganisms and microbiology

Related material in textbook

Chap. 1

Topics for remainder of course:

Review (on your own) the following topics that you covered in introductory biology:

Basics of chemistry and biochemistry

DNA structure & replication

Transcription & translation

Introduction to Microbiology

Microorganisms and microbiology
An overview of microbial life

Chap. 1

Chap. 1

Cell structure/function

Chap. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Eukaryotic microorganisms

Chap. 13, 18, & Chap. 34

BIOLOGY 3100/5100. Microbiology – Plans and Class Topics

Pathogenic microbiology

Human-microbe interactions; pathogenesis

Chap. 24, 25

Epidemiology & public health

Chap. 30

Microbial diseases (selected topics)

Chap. 31-34

A tentative schedule for the ex7 TD (n)Tj 0 g -.0437 .0437 (x)Tj 0 g -.0437 .0437 TD (xg .3772 -.0419 TD (-)Tj 0 g -.0

Tentative Lab Schedule (See BlazeView for details)

Lab Module 1 – Week of Jan 10 (Safety, Handwashing, Preparation of Culture Media)

Lab Module 2 – Week of Jan 17 (Safety, Aseptic Tech, Streak Plate, rRNA, Simple Staining)

Lab Module 3 – Week of Jan 24 (Microscope, Yeast/bacteria, Negative Stain, Winogradsky)

Lab Module 4 – Week of Jan 31 (Ubiquity of Bacteria; Fungi; Bacteria & Produce; Dilutions)

Lab Module 4A - Week of Feb 7 (Fungi; Gram Staining)

Lab Module 5 – Week of Feb 14 (Endospore Staining; Gram Staining; Produce Isolate; Dilution Problems; Pathogen Topics)

Lab Module 6 – Week of Feb 21 (Produce Isolate Stocks; Plaque Assay); **Scheduled Lab Notebook/Lab Manual Check #1 will be done on Thurs Feb 24, Tues March 1, & Thurs March 3**

Lab Module 7 – Week of Feb 28 (Bacteria in Yogurt); **Scheduled Lab Notebook/Lab Manual Check #1 will be done on Thurs Feb 24, Tues March 1, & Thurs March 3**

Lab Module 8 – Week of March 7 (Various Media; Cultural Characteristics/Motility; Hydrolytic & Degradative Reactions; Produce Unknown)

Spring Break

Lab Module 9 – Week of March 21 (Oxidation & Fermentation Tests; Produce Unknown)

Lab Modules 10 & 11 – Weeks of March 28 & April 4 (Details will be in overview/guide)

Lab Module 12 – Week of April 11 (To be announced); **Scheduled lab notebook & lab manual check #2 will be done on April 12 & April 14**

Lab Weeks of April 18 & 25 - Oral Presentations on Pathogens

ADDITIONAL INFORMATION:

1. LABORATORY, ETC.

--Please come to class & lab on time.

-- Safety is important in any science lab, and it is particularly important in a microbiology lab. Also, this semester presents special safety concerns due to the ongoing pandemic due to SARS-Coronavirus-2. You must read and follow the provided safety guidelines for the microbiology lab. These include washing your hands with soap and water before you leave the lab.

--Please print your own copy of the Microbiology Laboratory Safety Rules and keep it in your lab notebook. As noted previously, you will need to complete Quiz 1 (a brief quiz) on these safety rules by Monday, Jan. 17, at 10 am.

-- Food and drink may not be consumed in the classroom or in the lab. If you carry a bottle of water or other beverage with you, please be sure that it is sealed and put away (OUT OF SIGHT) before you enter the classroom or the lab.

--Please read the laboratory exercises y a e. Pj . 485 4.0419 TDj () Tj 0 g 4.0419 .0419 TDj () Tj 4.754p8(312.5389 0.0419 T

--Each student must record the results of the lab exercises and answer the related questions, noted in BlazeView. Lab work will be covered on the exams. There may also be some assessments/assignments/reports. These will be noted and some will be submitted via BlazeView; whereas, others will be submitted in the laboratory.

--Each student must keep lab records in a well-organized lab notebook. All pages of the notebook must be numbered. The lab notebook must have a "Table of Contents" that includes titles of all the lab exercises/experiments/work, the dates they were performed, and the pages in the notebook where they are located. The instructor will check lab notebooks at least two times during the semester.

2. EXAMINATIONS (quizzes) 2-5 will cover material presented during both the class and laboratory portions of the course. The examinations will be given in the classroom and will begin promptly at the beginning of the indicated class periods. The final examination (Exam 5) will be comprehensive in that it will include material covered throughout the course. (However, there will be an emphasis on the more recently covered material.) Exams 3 and 4 will be comprehensive in that up to 25% of the points on the exam may cover material presented before any earlier examination. Exams may include questions of the multiple-choice, matching, true-false, and short-answer formats. Diagrams and occasional essay questions may also be included. A student who misses an examination should notify the instructor promptly. Arrangements for a make-up exam must be made within one week after the exam date; otherwise, a make-up exam may not be given. Make-up examinations may consist entirely of questions of the short answer and essay formats and may be worth fewer points than the regularly-scheduled exams. (Quiz 1 is a very brief quiz that focuses on safety in the microbiology lab. Each student must complete this quiz by **Monday, Jan. 17, 2022, at 10:00 am.**)

---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.

---During examinations, students will be asked to place their bags and books directly under their seats or in the front of the classroom. No hats may be worn during exams.

---Students are cautioned to be certain that cell phones, other electronic devices, and specialty watches are silenced and put away (OUT OF SIGHT) during examinations. Unless otherwise noted, calculators may not be used during examinations. Should a cell phone, specialty watch, calculator or other electronic device be seen or heard during an exam, the student's exam will be terminated and the student will receive a score of "0" on the exam.

--Exams will not be returned to students, and students will not be permitted to photograph exams. After grading has been completed, the instructor may bring the exams to one of the lab periods for students to view. Students must be certain to put away (OUT OF SIGHT) their cell phones, other electronic devices,

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 microbiology and write a summary and reaction to the article. If you found errors in the article, you should note them. Or you could find and evaluate an Internet resource that has information about microbiology. Finally, you might locate information about the status of the current pandemic (or another disease 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 microbiology and be more involved with the material throughout the semester. Journals must be typewritten, and they must include working links to any resources used. If you use the textbook as a resource, please

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ADDITIONAL COMMENTS

1. We will not be covering all of the material in the textbook and lab manual. Please read the pertinent sections of the textbook and lab manual, and make use of the tables and illustrations. Specific assignments on particular topics in these books may be announced in class or lab, or they may be posted on BlazeView.

2. Attendance and participation are important for success in the course. This is particularly true for the laboratory. In accordance with VSU policy, attendance and participation will be checked both in class and in the laboratory. The VSU Undergraduate Catalog states, "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." Please note that the highest possible grade for a student who misses more than 7 laboratory/oral presentation periods will be a grade of D-.

3. As the instructor, I want you to enjoy learning about microbes during this course! Therefore, I will do my best to work with each of you so you can accomplish your goals in the course. Please feel free to schedule an appointment to meet with me, or to drop by during my office hours.

Grading for BIOL 3100:

Points for the course are allocated as follows