
Biology Department, College of Arts & Sciences, Valdosta State University
FALL 2013----COURSE SYLLABUS*

BIOL 3100, Sections A & B. Microbiology (CRN 81285 & 81286) - 4 credit hours
BIOL 5100, Sections A & B. Microbiology (CRN 81313 & 81314) – 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

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Instructor:	Dr. Jenifer Turco	Email:	jturco@valdosta.edu
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Office Hours:	Tues. 4 15-5:15 pm & Thurs. 12:30-1:30 pm; or by appointment.		

Course Description: BIOL 3100 Microbiology 3-3-4 (4 credit hours) Prerequisites: BIOL 1107K, BIOL 1108K, BIOL 3200, CHEM 1211/CHEM 1211L, CHEM 1212/1212L. Recommended: CHEM 3402. BIOL 5100 Microbiology 3-3-4 (4 credit hours) Prerequisite: Admission into the graduate program or permission of the instructor Survey of microbiology

principles to issues, and they will produce viable solutions or make relevant inferences. The VSU General Education Outcomes (numbered 1-8) are available online at

Date	Topics/Lab Exercises	Related material in text
Thurs. Aug. 15L		

Date		Topics/Lab Exercises	Related material in text
Thurs.	Sept. 5	……continued from preceding page >FINISH EX. 8, THE FUNGI (Fungi Study – Do NOT open fungal cultures in the lab. Open them only in the biological safety cabinet. You will use clear cellophane tape to prepare slides of two or more different molds. The instructor will demonstrate this procedure, which is described in the lab manual on p. 64. Examine the slides using the low power (10x) objective and the high dry (40x) objective. Draw the specimens on p. 65, part A2, or you may draw them in your lab notebook. Also record a description of the appearance of the fungal colonies. Answer the questions on p. 66.	
Tues	Sept. 10	Nutrition, culture, & metabolism of microorganisms	Chap. 4, 14, 13, 17 & 18
Tues	Sept. 10	REMEMBER TO BRING 2 TUBES WITH FRESH WATER SAMPLE FOR TODAY'S LAB. >EX. 59, BACTERIOLOGICAL EXAMINATION OF WATER (You will work in groups of 4 and use the fresh water collected in 2 sterile, 50 ml tubes for this exercise.) >EX. 10, PURE CULTURE TECHNIQUES, STREAK-PLATE METHOD ONLY Examine plates from Thursday. Hopefully, each group of 4 students will be able to decide today on an isolate to use for their general unknown. If you are looking at a streak plate prepared from an isolated colony, pick a well-isolated colony and transfer it to a nutrient agar slant. This can be your group's general unknown culture; please label it clearly with "UNKNOWN", your lab section, and seat numbers. If your group has no plates that were prepared from a well-isolated coloony, then pick a well-isolated colony and use it to do another streak plate (using method B on page 8) and the prepared plate of medium provided by the i(g)5(r)--4(l)3(uk(m)1c)-3U-7(a)uk4(T)-Ditoup'rrl-3(l u)5(x-3(r)l it c)-3(l	

Date	Topics/Lab Exercises	Related material in text
Thurs. Sept. 19L	*Program #3, Metabolism* WORK SESSION ON DILU	Chap. 35 (p. 1007-1010); Chap. 15 (p. 425-427), & Chap. 23 (p. 693-695)

Date	Topics/Lab Exercises	Related material in text
Thurs. Oct. 3	Viruses	Chap. 9 & 21
Thurs. Oct. 3L	>EX. 31, ULTRAVIOLET LIGHT: LETHAL EFFECTS >FINISH SUPPL. EX., VARIOUS MEDIA -- Record results in the table provided with the exercise. ALSO, record results for your unknown in your notebook, and on the descriptive chart on p. 25. Consider the following question:	

Date	Topics/Lab Exercises	Related material in text
Tues. Oct. 15	……continued from preceding page >DISCUSSION ON THE USE OF BERGEY'S MANUAL OF DETERMINATIVE BACTERIOLOGY BERGEY'S MANUAL OF DETERMINATIVE BACTERIOLOGY is on reserve in the library for your use. Do NOT use EX.42 in the lab manual. >Do the following online exercise on your own: >SUPPL EX., USING RIBOSOMAL RNA GENE SEQUENCES TO LEARN ABOUT A MICROORGANISM >MONITOR WINOGRADSKY COLUMNS Optional journals for extra credit are due during lab on this day.	
Thurs. Oct. 17	Genetic engineering & biotechnology (selected topics) Microbial genomics	Chap. 11 & 15 (p. 428-433) Chap. 12 & 22 (p. 656-658)
Thurs. Oct. 17	THIS IS THE LAST DAY FOR LAB WORK ON THE GENERAL UNKNOWN. >Finish EX. 39, OXIDATION/FERMENTATION TESTS >Finish EX. 41, MULTIPLE TEST MEDIA (test for hydrogen sulfide production only) >Finish	

Date	Topics/Lab Exercises

Laboratory:

1. Laboratory exercises are an integral part of microbiology. Students are expected to attend ALL laboratory sessions, to be on time at the beginning of the period, and to complete all assigned laboratory exercises. There will be no makeups for the laboratory exercises.

2. Microscopes will be assigned and spot checks will be made to ensure that they are clean and properly stored. Misuse or mishandling of the microscopes will result in the loss of points (20 points per occurrence). After you have finished using your microscope, please consult the "microscope checklist" to be certain that you have followed the proper procedures.

3. Each student must read the laboratory exercises for the day, any additional required readings from the lab manual (noted in the syllabus), and any notes pertaining to the lab exercises (in the syllabus) before coming to the laboratory. This will allow the student to complete the exercises in an efficient and informed manner.

4. Each student must record the results of the laboratory exercises and answer the related questions, as noted in the syllabus. In some cases, lab reports are due as indicated in the course schedule. If a student misses a portion of the work relating to a required lab report, the student's report will be worth a maximum of 85% of the points allotted for the report. Each student must turn in his/her own drawings and rRNA report. However, the Winogradsky Column Project report may be prepared with your lab group. For this report, each group member will evalulate the percentage of the work contributed by each of the group members, and individual scores will reflect the average percents. For the general unknown lab report, students may prepare their lab reports individually, or they may work with their lab groups and turn in joint reports. If a joint report is submitted, each student must include his/her own individual records, drawings, and pictures that are labeled with his/her name. This requirement for each student's records, drawings, and pictures applies to the general unknown and Winogradsky Column Project lab reports.

5. One lab exam will be given. It will include material covered during the lab as well as a substantial number of dilution problems. If a student misses the lab exam, the instructor should be notified promptly. Arrangements for a make-up exam must be made within 4 days after a student misses the lab exam; otherwise, a make-up will not be given. The make-up exam will be worth 85% of the points allotted for the regularly scheduled exam.

6. Oral Presentations. During the laboratory portion of the course, each student will give an 18-minute oral report on a primary scientific article or case study select

deducted from the student's total points for the fourth missed (or incomplete) laboratory/student presentation period; 20 additional points will be deducted for the fifth missed (or incomplete) laboratory/student presentation period; 40 additional points will be deducted for the sixth missed/incomplete laboratory/student presentation period, and 50 additional points will be deducted for each subsequent missed/incomplete laboratory/student presentation period. Students who are late for lab or student oral presentation periods will be marked late. Coming late to lab or student presentation periods two