

Microbial Survey, BIO 233, Fall 2017
Lecture Syllabus

BIO 233 LABS BEGIN WEEK 2 OF THE SEMESTER (September 11th-15th)!

Professor: **Dr. Teri Shors**
Office: HS 155: e-mail: shors@uwosh.edu
Office Hours: WF 12:40-1:40 a.m., T 3:20-4:20 p.m. or by Appointment.
Please allow 48 hours for E-mail communications (possibly longer on weekends and holidays).
Please include the *course and section number* in the subject or body of e-mail communications.

Lecture: **MWF 11:30 a.m. to 12:30 p.m. Halsey 109**

Required text for lecture: **The Microbial Challenge** 3e by Robert Krasner and Teri Shors
Required Laboratory Manual: **Benson's Microbiological Applications: Laboratory Manual in General Microbiology**
Short Version 13th edition
Custom Laboratory Manual Prepared for UW Oshkosh
(only available through Reeve Union Bookstore)

Required Lab Safety Items: **Disposable lab coat, safety glasses, and nitrile gloves**
(available through Reeve Union Bookstore)

Lab Supplement: A set of Lab **Chalk Talk Notes** and other Forms for Lab Reports will be available on D2L the Lecture Course site under **Course Content** (Laboratory documents). Please print them, **READ them** as needed and bring them with you to lab EACH lab period.

Laboratory Forms: Additional Forms for Specific Lab Reports or Assignments will be available on D2L at the Lecture Course site under **Course Content** (Laboratory documents).

ACCOMMODATIONS: If you need special accommodations approved by Project Success or the Dean of Students for the course, please fill out the **Accommodations Form** (D2L-Content—**Forms**) and provide it to the instructor **1 week prior to each exam. Thank you.**

A Request to Make Up a Missed Exam Form is posted to D2L in case of an **emergency** resulting in a missed exam. See section in the syllabus on **EXAM POLICIES**.

BIO 233: This is a 4-credit class. It contains a 3-hour lecture component and a 2-hour laboratory component. You cannot pass this course if you do not attend and participate in the laboratory component of the class.

Course Description

This course is a survey of microorganisms, including bacteria, viruses, and some algae, fungi, and invertebrates. Emphasis will be placed upon the health care applications of microbiology and transmission of infectious disease agents. Laboratory will focus on standard microbiologic techniques used in the allied health fields. This course is designed for those students interested in allied health fields, including biology, nursing and medical technology majors. Prerequisite: **one semester of general biology (BIO 105).**

D2L

Please check D2L at least weekly for content, grades posted for this course, special accommodations (e.g. inclement weather). D2L will mainly be used to post the syllabi, lecture notes and grades.

E-mail

As a UW Oshkosh student, you should be checking your **UW Oshkosh e-mail account daily**. If there are schedule changes or important class business issues, the instructor will e-blast the class with information so that you are prepared for lectures and labs.

INCLEMENT WEATHER: For campus closings, check the following URL: <http://emergency.uwosh.edu/> Updates will be at this emergency site, including the nature of the problem, steps to address the problem and any necessary instructions. For road conditions, refer to 511 Wisconsin Travel Conditions <http://www.511wi.gov/Web/> Lastly, check your e-mail. If the instructor feels she cannot safely make it to campus or feels that the majority of students will not be able to attend the class based on e-mail queries related to road conditions etc., other accommodations to learn the material for that day will be made via D2L. Check your e-mail to determine if lecture is canceled and what accommodations have made to accommodate the classroom time missed. The instructor has the capability to podcast lectures from home.

Supplemental News Clips

Supplemental news clips if available, can be viewed via D2L and **cannot be downloaded to your computer due to permission rights**. NOTE: there is no download icon for supplemental videos.

GRADING: Due to privacy regulations, grades cannot be given out over the phone or by e-mail. Grades will be posted in the Gradebook of D2L.

EXAM POLICY Bring and have ready a PHOTO ID to each exam. The exams will not be handed out until your Instructor is satisfied with the seating arrangement and the room is quiet. **You will be present for every scheduled exam**. No one should even think about missing an exam for any but the most extreme emergencies (e.g., grievous illness or injury, death of a loved one). **If such an emergency should arise, if you notify me of your intended absence before the start of the exam, and if your excuse is then and only then will you be allowed to take the a make-up exam representing the missed material at the Testing Center located in the basement of Polk library. Provide the instructor with the Request to Makeup a Missed Exam Form (located on D2L→ Content→Forms).** The score earned on the make-up will only be allowed if the above conditions are met. If you miss an exam and these conditions are not met, you will receive a zero for that exam. **You must have a #2 LEAD pencil to fill in the scantrons.** Scantrons filled in pen cannot be scored.

Exam Answer Keys: After all students have taken an exam, a **copy of the exam and your original scantron will be made available at the Halsey Resource Center (2nd floor of Halsey Science Center).** **Scantrons will not be accepted for re-scoring** but please pick them up to determine which questions were answered incorrectly. **Answer keys will be posted to D2L (Content)**. If you did not do as well as you expected, a new strategy should be implemented/consult with the instructor if needed, request tutoring through CAR etc. **The first exam and scantron will be available until the 2nd exam is taken. After the second exam is taken, the 2nd exam will replace the first exam at the Halsey Resource Center and the answer keys will replace the answer keys to exam 1 on D2L and so forth.** Therefore, it is imperative that you review your exams in a timely manner because copies of exams and answer keys are available during a finite time period. After this period, the exam and keys are shredded. There are three lecture exams. The final exam is comprehensive. It will include 25% of the questions from each lecture exam and 25% new questions from the last material covered in the class.

QUESTIONS ABOUT LECTURE GRADES: If you believe your exam was not scored properly (e.g. less points than you should have) or entered into the Gradebook on D2L correctly, you must notify the instructor in writing **within 1 week after the exam key was posted to D2L.** **Word-process your query, print it, and place in an envelope on the lecture instructor's office door (HS155).** All queries must contain the following to be considered:

1. Your First and Last Name
2. BIO 233
3. SECTION number
4. Which exam your query is about e.g. Lecture Exam 1.
5. Query

The instructor will then review the query based on your scored responses provided by the Testing Center. **An e-mail or phone call will NOT BE CONSIDERED by the instructor for review.** If any of the above directions are not followed, the instructor will not honor your request.

QUESTIONS ABOUT LAB GRADES: PLEASE CONTACT YOUR LAB INSTRUCTOR for lab queries.

All lab grades will be posted to D2L by your instructor. If you believe your quiz or assignment was not graded correctly or entered into the Gradebook on D2L incorrectly, you must notify the LAB instructor in writing **within 1 week after grades have been posted to D2L by your lab instructor.** **Word-process your query, print it, place it in an envelope, and put it on the lab instructor's office door or departmental office mailbox.** All queries must contain the following to be considered:

The list of lab sections and instructors are shown below. If there are questions about lab, please contact the **lab instructor that teaches the section you are enrolled in.**

A01L	91161	9:10am – 11:10am	M	N. Halsey 174	T. Shors
A02L	91162	1:50pm – 3:50pm	M	N. Halsey 174	S. Mueller-Spitz
A03L	91163	1:20pm – 3:20pm	T	N. Halsey 174	T. Shors
A04L	91164	9:10am – 11:10am	W	N. Halsey 174	T. Shors
A05L	91165	1:50pm – 3:50pm	W	N. Halsey 174	T. Shors
A06L	91166	1:20pm – 3:20pm	R	N. Halsey 174	V. Van Deurzen
A07L	91167	9:10am – 11:10am	F	N. Halsey 174	T. Shors
A09C	91160	11:30am – 12:30pm	M/W/F	S. Halsey 109	T. Shors

1. Your First and Last Name (include both names if you recently had a name change)
2. **BIO 233**
3. **LAB SECTION number**
4. The quiz number or assignment in the query.
5. Query

An e-mail or phone call asking for more points will NOT BE CONSIDERED by the instructor for review.

GRADING BREAKDOWN

There will be three 100 point lecture exams and a 200 point comprehensive final exam. The format of the exams will be multiple choice (scantron). Grading breakdown for the laboratory component of the course is found on the laboratory syllabus.

Course Grading Rubric*

3 Lecture Exams	300 points (100 points each)
1 Final COMPREHENSIVE Exam	200 points
Laboratory Points	430 points
TOTAL Points	930 points

GRADING:

A	100%-94%	4.00
A-	93%-88%	3.67
B+	87%-85%	3.33
B	84%-81%	3.00
B-	80%-78%	2.67
C+	77%-75%	2.33
C	74%-71%	2.00
C-	70%-69%	1.67
D+	68%-67%	1.33
D	66-63%	1.00
D-	62-60%	0.67
F	<60%	0.00

*Instructor reserves the right to adjust grades of the entire class if necessary (e.g. curve scores higher OR lower).

Attendance

While there is no formal requirement, attendance in the lecture is highly recommended. Lectures will include some information not included in the textbook. The instructor may pick and choose parts of chapters that are more relevant for the course. Being at class and asking questions is highly encouraged. Earning a high grade in the class will be difficult, if not impossible, without regular attendance. **Information from lectures, films, or articles distributed in class are all "fair game" for exam questions.** If you miss a class period, **it is your responsibility to obtain notes from a fellow student.** Punctuality is encouraged; if late arrival is unavoidable, the student should enter the class in a manner that creates as little disruption as possible.

Get to know other students in the course! The instructor will allow a few minutes for you to introduce yourself to other students so that you have contacts in case you need notes etc. if you miss class. Fill in the Table below for your records.

Table 1: BIO 233 Fellow Classmate Information

Student name	E-mail address	Cell Phone Number	Lab Section #

Pit Class Etiquette

This is a one-hour lecture. Getting up in the middle of class to get a drink of water or some other activity is distracting. Please DO NOT do this.

Behavior in Lecture:

Class sizes for BIO 233 are quite large, and in order for everyone to hear the instructor and be able to ask questions (and hear the answers) there are some rules that must be followed. If the rules are not followed, the instructor may remind you to follow these rules or ask you to leave the classroom due to distractions caused by such behaviors.

- 1. All cell phones, and other electronic devices must be turned off or be silenced.**
- 2. Please remove ear buds.**
- 3. Please do not talk while the instructor is speaking.** Voices in large lecture rooms tend to carry great distances and can drown out the voice of the instructor. Those who sit in the back of the lecture room often have a particularly difficult time hearing the instructor. As a courtesy to your fellow classmates, please do not talk during the lecture.
- 4. Please put away cell phones so that you can focus on the course lecture.**
- 5. Do not leave early.** Do not get up and leave and come back at your leisure throughout the lecture period. By signing up for BIO 233, you are entering into an agreement with the instructor and the other students in the class that you will stay for the full lecture period. **Leaving early is rude to both the instructor and other students, often creates noise that prevents others from hearing the instructor and you may miss important information.**
- 6. Please do not arrive late for class. Be prompt. Going to class is no different than going to work. You are expected to be present on time.**
- 7. If you use a laptop to take notes for the course, please sit in the front rows of the classroom.** Students have found laptop users to be distracting. **Sitting in the front with laptops has alleviated the distractions.**

Course Objectives

- To introduce the student to the relationship between microbes and our lives.
- To familiarize the student with the diversity, structure, and metabolic processes of microorganisms.
- To understand microbial populations and how unwanted microbial growth can be controlled (e.g. microbes that cause food spoilage or disease).
- To understand the role of microbial genetics in grasping such concepts as antibiotic resistance and the development of vaccines.
- To learn how microbes are classified and identified in the laboratory.
- To gain an understanding of how the human body and various microorganisms interact in terms of health and disease (e.g. defense mechanisms, microbial pathogenicity).

Microbial Survey and Promoting the Liberal Arts: A liberal arts education refers to studies in a college or university intended to provide general knowledge and develop intellectual capacities. A liberal arts education prepares students to work in a variety of jobs. This is different from other types of education where students develop professional or vocational skills for a specific job. The Pre-Nursing and Science Education Majors are offered courses at UW-Oshkosh within the College of Letters and Sciences (COLS). The COLS emphasizes a liberal arts education. It promotes a liberal arts education model proposed by Carol Geary Schneider, president of the Association of American Colleges and Universities since 1998. Schneider stresses the idea that ALL students **receive an education of lasting value, relevant for the 21st century**. In her model learning should be: 1) "analytical, contextual and holistic thinking;" 2) "effective communication using multiple literacies and forms of expression;" 3) "critical reflection/informed action as citizens, producers, human beings;" 4) "ethical action for local and global communities;" and 5) "integrative learning."

At UW-Oshkosh, you will have a broad exposure to the liberal arts, while focusing on a topic that you are particularly interested in such nursing or the sciences. BIO 233 (Microbial Survey), is a required course in the Nursing Program and an elective course in the Science Education Major. Microbial Survey is important in not only the study of infections and their treatment and prevention, **but also in the unraveling of the most fundamental aspects of biology**. This is because

microbes have an intimate relationship with the basic machinery of their host cells. Thus, research on how microorganisms reproduce themselves and spread has given us many insights into the way in which the cells of our bodies function, **leading in turn to a better understanding of the whole organism and of how infective diseases may be prevented or cured.**

Faculty/Student Responsibilities:

1. As a college student, you are expected to schedule at least two hours of study time outside of class for **each** hour the class meets.
2. Each student is responsible for reading the text and **not** relying entirely on the instructor presenting every detail.
3. Any dishonesty involved with laboratory work or lecture exams will result in a grade of zero.
4. The student is expected to show good listening skills by focusing on the speaker and taking notes by restating in his/her words what is being said.
5. The student is expected to prepare for and take tests on schedule, and to keep a record of all grades to monitor progress (D2L).
6. The student is expected to exhibit a positive attitude by being considerate and polite, cooperating with the instructor and classmates to further their learning goals.

Study effectively and intelligently. In other words, don't cram! Plan your study sessions in advance and allow for enough time to adequately review the material. Form a study group with other students if that is an effective study technique for you. Study to understand rather than simply memorize. The greatest hurdle for any student in a microbiology course is the new vocabulary/names of microbes that must be learned. Repetition remains one of the more effective means of memorizing and understanding information, but it is important that you remember two key points. First, start early in the semester and study regularly. If you review continually and on a regular basis, then you will retain more information and improve your understanding. Second, take frequent breaks while studying. The human brain is not a sponge. We can only take in so much information at one time. After approximately 25 – 30 minutes take a break for about 10 minutes. Get up, stretch your legs and perhaps get a drink and then return to studying. Remember the key steps of **repeated review** and **short study intervals**.

Academic Dishonesty: Policies are clearly defined at this institution and will be followed. Students are referred to the University of Wisconsin Oshkosh Student Discipline Code as detailed in specific provisions of Chapter 14 of the State of Wisconsin Administrative Code. Any student(s) found in violation of any aspect of the above Code (as defined in sections UWS 14.02 and 14.03) will receive a sanction as detailed in UWS 14.05 and 14.06. Examples of violations include: looking at another student's exam or answer sheet and copying the answers during an exam, talking or whispering to another student during an exam, receiving text messages during an exam on an electronic device, or listening to answers or information recorded on an electronic using earphones during an exam. Sanctions range from a grade of zero for the assignment in question to an oral reprimand to expulsion from the University of Wisconsin Oshkosh.

Tentative Lecture Schedule The Instructor reserves the right to make changes during the semester.

Week	Lecture	Date/Weekday	Topic	Text Pages
1	1	Sept. 6 W	Introduction to Course	
1	2	Sept. 8 F	Disease Triangle Concept introduced early Hurricane Harvey and Infectious Diseases Are you ready for an epidemic/pandemic?	Instructor's notes
2	3	Sept. 18 M	BIO 233 LABS START THIS WEEK! History: Civil War Medicine and the Birth of Nursing History of Microbiology Part I: The Challenge: Identifying the Challenge	Chapter 1
2	4	Sept. 13 W	Part I: The Challenge: Identifying the Challenge	Chapter 1
2	5	Sept. 15 F	Identifying the Challenge Cont. Emerging Diseases, Healthcare Today Tickborne Infections Elizabethkingia outbreak, Wisconsin 2015-2016 Zika virus infections	Chapter 1 and instructor's notes
3	6	Sept. 18 M	Identifying the Challenge Cont.	Chapter 1
3	7	Sept. 20 W	The Microbial World	Chapter 2
3	8	Sept. 22 F	The Microbial World	Chapter 2
4	9	Sept. 25 M	Beneficial Aspects of Microbes: The Other Side	Chapter 3
4	10	Sept. 27 W	Exam 1	
4	11	Sept. 29 F	NOVA: Killer on Campus (Bacterial Meningitis)	
5	12	Oct. 2 M	Bacteria	Chapter 4
5	13	Oct. 4 W	Bacteria	Chapter 4
5	14	Oct. 6 F	Part II Microbial Disease: Concepts of Microbial Disease	Chapter 7
6	15	Oct. 9 M	Epidemiology and Cycle of Microbial Disease Review Disease Triangle and Koch's Postulates	Chapter 8
6	16	Oct. 11 W	Bacterial Diseases and Current Plagues	Chapters 9 and 16
6	17	Oct. 13 F	Bacterial Diseases and Current Plagues	Chapters 9 and 16
7	18	Oct. 16 M	Bacterial Diseases and Current Plagues	Chapters 9 and 16
7	19	Oct. 18 W	Bacterial Diseases and Current Plagues	Chapters 9 and 16
7	20	Oct. 20 F	Bacterial Diseases and Current Plagues	Chapters 9 and 16
8	21	Oct. 23 M	Film: FRONTLINE: Hunting the Nightmare Bacteria	
8	22	Oct 25 W	Exam 2	
8	23	Oct. 27 F	Part III: Meeting the Challenge: The Immune Response	Chapter 12
9	24	Oct. 20 M	Part III: Meeting the Challenge: The Immune Response	Chapter 12
9	25	Nov. 1 W	Control of Microbial Diseases	Chapter 13
9	26	Nov. 3 F	Control of Microbial Diseases	Chapter 13
10	27	Nov. 6 M	Control of Microbial Diseases	Chapter 13
10	28	Nov. 8 W	Virus Basics	
10	29	Nov. 10 F	PBS: Influenza, 1918 An American Experience	
11	30	Nov. 13 M	Influenza viruses	Chapter 16
11	31	Nov. 15 W	Influenza viruses/Vaccines	Chapter 16
11	32	Nov. 17 F	Influenza viruses and Surveillance and circulating strains	Chapter 16
12	33	Nov. 20 M	Influenza viruses and Surveillance and circulating strains	Chapter 16
			Thanksgiving Break November 22-26	
12	34	Nov 27 M	Other viruses (new material on final exam)	Chapter 16
12	35	Nov. 29 W	Exam 3	
12	36	Dec. 1 F	Other viruses (new material on final exam)	Chapter 10
13	37	Dec. 4 M	Protozoan, Helminthic, and Fungal Diseases (new material on final exam)	Chapter 10
13	38	Dec. 6 W	Protozoan, Helminthic, and Fungal Diseases (new material on final exam)	Chapter 11
13	39	Dec. 8 F	Partnerships in the Control of Infectious Diseases Resources in Healthcare (new material on final exam)	Chapter 14
14	40	Dec. 11 M	Review	
14	41	Dec. 13 W	Final Exam	
14	42	Dec. 15 F	Final Exam Make Up for Emergencies	

BIO 233: Fall 2017
Microbial Survey Laboratory Syllabus
Location: Halsey 174

Instructor: _____
Office: _____
Phone: _____
E-Mail: _____
Office Hours: _____

BE PREPARED FOR LAB! IF YOU DO NOT HAVE THE LISTED MATERIALS THE **EVERY LAB PERIOD** OF THE SEMESTER, **YOU WILL LOSE 5 LAB POINTS.**

If you miss the first scheduled lab **you will be dropped from the course** so that students on a wait list will be enrolled in the course.

LABS DO NOT MEET WEEK 1 AND WEEK 14 OF THE SEMESTER!

A01L	91161	9:10am – 11:10am	M	N. Halsey 174	T. Shors
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A07L	91167	9:10am – 11:10am	F	N. Halsey 174	T. Shors
A09C	91160	11:30am – 12:30pm	M/W/F	S. Halsey 109	T. Shors

Attendance: You are expected to attend every period and to participate fully in each laboratory experiment. Students unable to attend lab *must notify the lab instructor by e-mail prior to the laboratory.* The enrollment for this course is maxed out. There are no empty seats in the lab. **Labs CANNOT be made up, due to logistical problems.** “Section jumping” will not be allowed because there are no empty seats. Adding a seat will break the fire codes.

If you have a documented excuse to miss any labs, contact the lab instructor at least a week **PRIOR** to the lab. The instructor may be able to work with you to ensure that you do not miss any lab points because of the absence.

If you experience an emergency and you must miss the lab, contact the lab instructor via **e-mail prior to the start of the lab.**

1. YOU WILL NEED **TO PURCHASE** THE FOLLOWING:

Purchases through **the UW-Oshkosh Bookstore:**

1. Required Lab Manual (only available at the bookstore)

Custom made for UW Oshkosh from Benson's Microbiological
Applications:
13th Edition, Short Version Special Edition for UW Oshkosh
McGraw Hill Publishing

2. A disposable lab coat

3. Safety glasses (optional for those who wear prescription glasses)

4. Nitrile gloves (LATEX gloves cannot be in the lab due to latex allergies)

Other purchases:

1 or 2 black sharpies

**personal hand sanitizer (optional—we do have some leftover sanitizer
from other students)**

1-2 rolls of paper towels

rubber bands (if you have long hair, it must be tied back)

2. **PRINT the Laboratory Chalkboard (Talk) Notes.** The notes are available without cost through the internet package, Desire to Learn (D2L). Log on to D2L via the web URL below. The notes can be found at the **BIO 233 lecture site** under the category "Course Content." It will be found as a topic listed under **BIO 233 laboratory documents.**

<http://www.uwosh.edu/d2l> (the server will redirect you to the correct secure page).

Please print the chalkboard notes and bring it along with the lab manual to every lab period.

Preparation is key to lab success. Failure to be missing any of the required items will result in a loss of 5 points for that lab period.

If you are late for lab, you will not be able to take the quiz (-10 points).

Other Laboratory Class Information:

QUESTIONS ABOUT LAB GRADES: PLEASE CONTACT YOUR LAB INSTRUCTOR for lab queries.

All lab grades will be posted to D2L by your instructor. If you believe your quiz or assignment was not graded correctly or entered into the Gradebook on D2L incorrectly, you must notify the LAB instructor in writing **within 1 week after grades have been posted to D2L by your lab instructor.** **Word-process your query, print it, place it in an envelope and put it on the lab instructor's office door or departmental office mailbox.** All queries must contain the following to be considered:

The list of lab sections and instructors are shown below. If there are questions about lab, please contact the **lab instructor that teaches the section you are enrolled in.**

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A09C	91160	11:30am – 12:30pm	M/W/F	S. Halsey 109	T. Shors

1. Your First and Last Name (include both names if you recently had a name change)
2. **BIO 233**
3. **LAB SECTION number**
4. The quiz number or assignment in the query.
5. Query

An e-mail or phone call asking for more points will NOT BE CONSIDERED by the instructor for review.

Other information about the lab:

1. **Late Lab Reports will not be accepted. Please STAPLE lab reports. Points can be taken off for unstapled reports.**
2. **There are no make-up quizzes. If you miss a lab, you CANNOT attend another lab section.** There are fire codes to abide to. **The labs are full.** This lab meets once a week for two hours. Do NOT miss lab. *If you have an emergency and must miss lab, contact your lab instructor before the lab begins. They might be able to make some accommodations depending upon the exercises performed in the lab that day but **you CANNOT attend other lab sections.** Do not try to swap lab periods with another student for a week you must miss etc.*
3. For questions regarding the lab, **contact the lab instructor teaching the section you are in.** Please do NOT contact the lecture instructor unless that instructor also serves as your lab section instructor. Communication is key in life. Communicate with the instructor that grades you regarding the lab component of this course.
4. **Quizzes:** At the beginning of each laboratory period (with the exception of the first week), there will be short, timed (no more than 10 minutes will be allotted to do this), in-class, **quiz.** **The quizzes are focused on reading the chalktalk notes and briefly reviewing the pages referred to in the laboratory manual regarding the lab exercises.** You will be quizzed on **laboratory work for that day or work being completed from the prior laboratory.** Being prepared for the laboratory is the only way to do well in this class. **Quizzes cannot be made up.** *Quizzes may be cumulative--they may ask relevant questions from any previous laboratory.*

5. Case Studies: Nearly every lab period has a case study applied to the main concepts used in that lab period. While you do not get credit for working on the case studies, they are good practice for the lab final exam. The lab final exam will include questions of case study format. Work together in groups or on your own on these case studies. *Effort should be put into the case studies before the instructors review them. **If you have not done the case study on the day that it is reviewed in class, you will lose 5 points from your lab grade.***

6. Microscope maintenance. The microscopes must be maintained properly. **The instructor may deduct 5 points from your lab grade each day that microscopes are abused (e.g. oil on lenses, slides left on the scope, not put away properly etc.**

7. Lab Reports and Final Project: This laboratory will be using the scientific method or hypothesis approach. **We will expect that students are proficient in the modest use of statistics and graphical presentation of data.** Certain laboratory reports and the final project will require this skill in order to do well in the class. **For tips on creating bar graphs, printing PowerPoint presentations, and lab reports tips, download and read documents available at Desire To Learn:** <http://www.uwosh.edu/d2l> (the server will redirect you to the correct secure page)

8. Grading: The point breakdown for quizzes, lab reports, a final project and exam is listed in the table below.

233 Laboratory Point Breakdown

Specific Date or Week Due	Activity	Total Points
Quizzes	In class quiz (Weeks 3-10) 10 pts. each (5 questions: multiple choice and/or true-false format)	80 pts.
Week 3	Additional SAFETY quiz (short answer/ essay format)	10 pts.
Week 7	Clinical Sample Unknown: API 20E Antibiotic Sensitivity Table	5 pts. 5 pts.
Week 9	Synthetic Epidemic Pet Microbe report due	5 pts. 100 pts.
Week 10	Lab Report: Bacterial Diversity Group Report	15 pts.
Week 11	Poster FORMAT Quiz (10 questions, multiple choice or true false form, 10 questions).	10 pts.
Week 13	Final Lab Exam Group Project Poster/Presentation	100 pts. 100 pts.
POINTS LOST (Each lab period, up points may be lost for not complying to lab rules or are late for lab)	5 points removed from grade per safety rule broken (SEE LAB SAFETY CONTRACT) 5 points lost if you do not bring all materials needed for lab 5 points lost if you have not done the case study due 5 points per lab period lost if microscopes are not cared for properly (e.g. not put away properly, oil on objectives and/or stage) 5 pts. lost for blocking the microscope cabinets or prep area door with backpacks. If you are late for class, you cannot take the quiz which is worth 10 points 5 points removed for unneeded items at your bench that can become contaminated (e.g. cell phones, pencil pouches)	

TOTAL LAB POINTS.....430 pts.

9. Academic Dishonesty Policy: Cheating on an exam, plagiarizing, or any other form of academic dishonesty will be dealt with in accordance with the current UWO Student Discipline Code. The instructor reserves the right to assign a grade of "F" for the course should circumstances warrant.

10. Common courtesy: Do NOT bring your cell phone to the lab bench. Please remove earbuds. You will be handling microbes. **Lab safety requires that you do not bring these items to your bench. Extraneous items could become contaminated at the lab bench while handling microbes.** All you need at your bench is your **chalktalk notes, a pen or pencil, sharpie and the lab manual.**

11.100 Point Final lab exam: This will be a **comprehensive** exam. It is of multiple choice format, **however some questions will have multiple answers.** For full credit, each correct answer must be shaded on the scantron to be scored as a correct answer. A study guide will be provided later in the semester for the lab exam.

Laboratory Schedule: Microbial Survey BIO 233

Week	Date	Title of Experiment	Lab Manual
1	Sept. 6th- Sept. 8th	NO LABS	
2	Sept. 11- Sept. 15th	Orientation to the Microbiology Laboratory Go over SAMPLE QUIZ 1 The Microscope Smear Prep and Simple Stains Aseptic Technique <i>Work on Case Study 1: Meningitis in the Military Barracks</i>	pp. x-xiii pp. 1-19
3	Sept. 18 th - Sept. 22 nd	BIO 233 lab competition begins! IN CLASS: QUIZ 2 SAFETY QUIZ (short answer/essay format) Handling and Examining Cultures Gram Stain Pet Microbes (this on an ongoing lab and will continue through week 8) <i>Work on Case Study 2: The Wounded Child</i>	pp. 13-25 Study the Safety Contract!
4	Sept. 25 th - Sept. 29th	IN CLASS: QUIZ 3 Pure Culture Techniques (T-Streak) Diagnostic Microbiology in Action Respiratory Microorganisms (Blood agar plates) Urine Culture Techniques (MAC agar plates) <i>Work on Case Study 3: Katherine the Distracted Medical Technologist</i>	pp. 33-56
5	Oct. 2 nd - Oct. 6th	IN CLASS: QUIZ 4 Biochemical testing: Catalase and Oxidase Mannitol Salts Plates (Salt tolerance and staphylococci) Use of Enzyme-linked immunoassay (ELISA) Test for Group A Rapid <i>Streptococcus pyogenes</i> Identification Start Gas Pak Jars (Effects of Oxygen on Growth) <i>Work on Case Study 4: Mama Mia, Papa Pia, Boy's Got the Diarrhea!</i>	pp. 73-74 pp. 89-90 pp. 77-79 pp. 59-61
6	Oct. 9 th - Oct. 13th	IN CLASS: QUIZ 5 <i>Enterobacteriaceae</i> Identification: The API 20 E System (Clinical Unknown) Biochemical Testing of pets: Fermentations: lactose and mannitol broths Antibiotic Susceptibility Testing on Mueller Hinton Agar (<i>Serratia marcescens</i>) Biochemical testing of pets: Pigment production using Mueller Hinton Agar <i>Work on Case Study 5: Diarrhea at the Carnival</i>	pp. 85-88 Figure 13.7 p. 71 pp. 97-100
7	Oct. 18 th - Oct. 22 nd	IN CLASS: QUIZ 6 Finish API20E—turn in clinical unknown score sheet Finish Antibiotic susceptibility Testing (Measure zones of inhibition) Killing Microbes: Boiling (<i>Bacillus megaterium</i> endospores) and Autoclaving (<i>Bacillus megaterium</i> endospores) No Case Study this week	pp. 107-111
8	Oct. 23 rd - Oct. 27th	IN CLASS: QUIZ 7 Synthetic Epidemic BEGIN Bacterial Diversity FINISH PET MICROBES <i>Work on Case Study 6: It's in the Dirt!</i>	pp. 113-114
9	Oct. 30 th - Nov. 3 rd	IN CLASS: QUIZ 8 Parasitology: Protozoa and Helminths: Fecal Float/Fecalyzer Fungi: Yeasts and Molds Pet Microbe Report Due	pp. 125-153

		Collect Bacterial Diversity Data Group PROJECT APPROVAL; (Order supplies) Nov. 6 th - Nov. 10 th <i>Work on Case Study 7: Beaver Fever in Rocky Mountain National Park (LAST CASE STUDY)</i>	
10	Nov. 6 th - Nov. 10 th	IN CLASS: QUIZ 9 Bacterial Diversity Report Due Group Project EXPERIMENTS Begin	
11	Nov. 13 th - Nov. 17 th	Poster Format Quiz Group Projects: Collect Data from Experiments	
	Nov. 20 th - Nov. 24 th	Thanksgiving Break No LABS this week (Lecture DOES meet on Monday!)	
12	Nov. 27 th - Dec. 1 st	Group Projects Cont.	
13	Dec. 4 th - Dec. 8 th	Lab EXAM (75 minutes, in class) Group Project Presentations: POSTER SESSIONS	
14	Dec. 11 th - Dec. 15 th	NO LABS Meet	

You will be quizzed on new laboratory exercises for the lab day you are attending or exercises completed the prior week in the laboratory. Being prepared for the laboratory is the only way to do well in this class. Quizzes cannot be made up. *Quizzes may be cumulative--they may ask relevant questions from any previous laboratory.*

Lab Instructor Information:

Fill in the Table Below During the First Day of Lab:

Lab Instructor:	
Section #, Time and Day of Lab:	
Lab Instructor's Office Location:	
Lab Instructor's E-mail address:	

Laboratory Rules: Instructor Copy

Over 90% of the students in this course are planning to be in careers in healthcare. Teamwork in healthcare is important to patient treatment, care and safety. A team is only as strong as it's weakest member. To instill this team concept, there will be a lab section competition. Each member of the lab section that wins will earn 20 points of extra credit.

The lab section that has accumulated the least number of points lost (due to being late, not prepared, violations of safety rules, and microscope abuse) will earn the extra credit. Find ways to help each other so that points are not lost. All points lost affects the team. In healthcare, it can mean a patient will die if proper protocol is not followed as a team.

A microbiology laboratory is a unique environment that requires special practices and containment facilities in order to properly protect persons working with microorganisms. Safety in the laboratory is the primary concern. The three main elements of safe containment of microorganisms are (1) good laboratory practices and technique, (2) safety equipment, and (3) facility design.

Any item you bring to your bench has the potential to become contaminated with the microbes we work with in the laboratory! **BE COGNIZANT of what you are doing! Absolutely NO CELL PHONES or laptops should be near your bench.**

Listed below are some general rules for the laboratory. Read them very carefully, **initial beside each item, sign and date the document at the bottom of the page, and return the signed document to your laboratory instructor in lab during week 2 of the semester.** Your laboratory instructor will provide more detailed information on the first day of the course and can clarify any safety issues or concerns you may have throughout the semester. **You will be quizzed on these rules during Week 3.**

1. Be on time to lab. If you are not on time, you will not be able to take the quiz (worth 10 points).
2. No cell phones or laptops are allowed at the lab bench. We work with microbes in the laboratory. Cell phones may be contaminated at the bench and will further contaminate you and your environment.
3. No pencil pouches are allowed at the bench!
4. Remove earbuds.
5. Hats cannot be worn in the lab (because they can become contaminated).
6. Always wear a disposable lab in the laboratory. This will protect your clothing and skin from any accidental contamination and stains.
7. Always wear safety glasses in the laboratory. If you wear prescription glasses, you do not need safety glasses.
8. Gloves should be worn in the laboratory.
9. Closed shoes must be worn. No open-toed shoes, sandals, or bare feet are allowed in the laboratory.
10. Students with long hair (shoulder length or longer) must wear it tied back during the laboratory.
11. Place items such as textbooks, backpacks, cell phones, earbuds, coats, etc. only in designated areas in the laboratory. Do NOT block the microscope cabinets or door to the microbiology prep area.
12. Never eat or drink in the laboratory (this includes NO chewing gum and no sucking on hard candy.)
13. Make it a habit to keep your hands away from your face!
14. Disinfect the bench area with the provided bleach solution prior to each experiment. When you have completed your work for the day, disinfect the bench again with the provided bleach solution.
15. Do not throw, slides, cover slips, paper, or cotton in the drains.
16. Do not pour or discard any substance down the drain without approval of the instructor.
17. Wash your hands with soap and water before leaving the laboratory.
18. Notify your instructor immediately when an accident occurs.
19. Discarded materials and used cultures must be placed in designated discard areas (e.g. glass tubes in the silver bucket, plastic petri dishes with bacterial colonies on them are placed in the biohazard after one is finished with them).
20. Microscopes should be put away and handled very carefully, using two hands (no oil on objectives, it should be set to the black knob or no objective when put away).
21. Use lens paper to remove oil from microscope objectives. Any other material will scratch the lens and ruin it.
22. Do NOT place safety or eyeglasses on your bench.
23. Place/ push stools under bench before you leave the laboratory.
24. Turn OFF the incinerators before you leave the laboratory.

Any student failing to abide by these rules is subject to lost points in the lab and/or an administrative drop from the course!

I have read the above rules carefully. I understand each of them and agree to follow them throughout this semester.

Course: BIO 233 (Microbial Survey) Semester: _____ Date: _____
Section number: _____ Instructor: _____

Student Name (please print): _____ Signature: _____

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Course: BIO 233 (Microbial Survey) Semester _____ Date: _____
Section number: _____ Instructor: _____

Student Name (please print): _____ Signature: _____