LIFE AND PHYSICAL SCIENCES
Student Learning Outcome Alignment Form

Course Prefix/Number: BIOL 2320

Course Title: Microbiology for Non Science Majors

Core Objective	Course SLO	General Learning Activities	Assessment
Critical Thinking Skills	6. To identify and describe different ways in which microscopic pathogens can be transmitted to humans, and relate this to examples of infectious diseases. 7. To identify and describe the make-up of the main types of vaccines, and relate this to the recommended vaccine schedule. 8. To identify and describe the main components of antibody-mediated immunity and cell-mediated immunity, and relate this to the infectious process of HIV	In this exercise, students work in groups on a lab write-up that involves two case studies regarding actual patients. The case studies include clinical signs and symptoms, lab results that include blood cell counts, and test results such as ELISA, PPD, Western Blot. Students play the roles of medical technologist and physician. They are required to understand how the lab tests are performed and how to draw conclusions from the results. The students are allowed to use notes and textbook to answer questions about the two cases. Students work in groups and agree on one diagnosis and answer for the group reports. See attached activity.	Grade, see attached rubric
Communication Skills	6. To identify and describe different ways in which microscopic pathogens can be transmitted to humans, and relate this to examples of infectious diseases. 7. To identify and describe the make-up of the main types of vaccines, and relate	In this exercise, students work in groups on a lab write-up that involves two case studies regarding actual patients. The case studies include clinical signs and symptoms, lab results that include blood cell counts, and test results such as ELISA, PPD, Western Blot. Students play the roles of medical technologist and physician. They are required to understand how the lab tests are performed and how to draw conclusions from the	Grade, see attached rubric

	this to the recommended vaccine schedule. 8. To identify and describe the main components of antibody-mediated immunity and cell-mediated immunity, and relate this to the infectious process of HIV	results. The students are allowed to use notes and textbook to answer questions about the two cases. Students work in groups and agree on one diagnosis and answer for the group reports. See attached activity.	
Empirical & Quantitative Skills	6. To identify and describe different ways in which microscopic pathogens can be transmitted to humans, and relate this to examples of infectious diseases. 7. To identify and describe the make-up of the main types of vaccines, and relate this to the recommended vaccine schedule. 8. To identify and describe the main components of antibody-mediated immunity and cell-mediated immunity, and relate this to the infectious process of HIV	In this exercise, students work in groups on a lab write-up that involves two case studies regarding actual patients. The case studies include clinical signs and symptoms, lab results that include blood cell counts, and test results such as ELISA, PPD, Western Blot. Students play the roles of medical technologist and physician. They are required to understand how the lab tests are performed and how to draw conclusions from the results. The students are allowed to use notes and textbook to answer questions about the two cases. Students work in groups and agree on one diagnosis and answer for the group reports. See attached activity.	Grade, see attached rubric
Teamwork	6. To identify and describe different ways in which microscopic pathogens can be transmitted to humans, and relate this to examples of infectious diseases. 7. To identify and describe the make-up of the main types of vaccines, and relate this to the recommended vaccine schedule.	In this exercise, students work in groups on a lab write-up that involves two case studies regarding actual patients. The case studies include clinical signs and symptoms, lab results that include blood cell counts, and test results such as ELISA, PPD, Western Blot. Students play the roles of medical technologist and physician. They are required to understand how the lab tests are performed and how to draw conclusions from the results. The students are allowed to use notes and textbook to answer questions about the two cases. Students work in	Grade, see attached rubric

	8. To identify and describe the main components of antibody-mediated immunity and cell-mediated immunity, and relate this to the infectious process of HIV	groups and agree on one diagnosis and answer for the group reports. See attached activity.	

CRITICAL THINKING VALUE RUBRIC

Adapted for Texarkana College from the AAC&U Critical Thinking VALUE Rubric

Definition

Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

	Does Not Meet Any Expectations 1	Meets Few Expectations 2	Meets Expectations 3	Exceeds Some Expectations 4	Exceeds All Expectations 5
Explanation of Issues	Did not state issue.	Issue is stated without clarification or description.	Issue is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined and/or backgrounds unknown.	Issue is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.
Evidence	Does not identify the basic components of an issue	Information is taken from sources without any interpretation. Viewpoints of experts are taken as fact, without question	Information is taken from sources with some interpretation but not enough to develop a coherent analysis or synthesis.	Information is taken from sources with enough interpretation to develop a coherent analysis or synthesis.	Information is taken from sources with enough interpretation to develop a comprehensive analysis or synthesis.
Influence of Context and Assumptions	Did not show awareness of the issue.	Show an emerging awareness of present assumptions.	Questions some assumptions. Identifies relevant information when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Thoroughly analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.
Student's Position	Takes no position on issue	Specific position is stated but is simplistic and obvious.	Specific position acknowledges different sides of an issue.	Specific position takes into account the complexities of an issue. Others' points of view are acknowledged within position.	Specific position is imaginative. Limits of position acknowledged. Other points of view are synthesized.

Conclusions and Related Outcomes	Does not use previously learned information in new situations.	Conclusion is inconsistently tied to some of the information discussed; related outcomes are oversimplified.	Conclusion is logically tied to information; some related outcomes are identified.	Conclusion is logically tied to a rage of information, including opposing viewpoints; related outcomes are identified clearly	Conclusions and related outcomes are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order

Communication RUBRIC

Adapted for Texarkana College from the AAC&U Critical Thinking VALUE Rubric and Making Learning Real

Definition

Written communication is the development and expression of ideas in writing.
Oral Communication is a prepared, purposeful presentation designed to increase knowledge, to foster understanding, or to promote change in the listeners' attitudes, values, beliefs, or behaviors.
Visual Communication is the use of images to persuade, entertain, inform, and enlighten an observing audience of products, ideas, and messages.

	Does Not Meet Any Expectations 1	Meets Few Expectations 2	Meets Expectations 3	Exceeds Some Expectations 4	Exceeds All Expectations 5
Quality of Information and Organization	Presentation lacks main points and related details. Information lacks connection to the presentation topic. Information is not organized.	Main points are not clear and lack significant detail. Some information is linked to the presentation topic. Information is loosely organized.	Main points are somewhat clear but could use more detail. Most information is linked to the presentation topic. Information is organized.	Main points are clear and detailed. Information is linked to presentation topic. Information is well organized.	Main points are very clear and very detailed. Information is directly linked to presentation topic. Information is very organized.
Nonverbal Communication	Speaker appears very uneasy and insecure. Speaker faces away from the audience or makes no eye contact. Speaker appears disengaged from the audience. Speaker uses few body motions or gestures or has gestures or movements that distract the audience.	Speaker appears uneasy and somewhat insecure. Speaker rarely faces the audience or makes eye contact. Speaker rarely appears to be engaging with the audience. Speaker uses few body motions or has gestures or movements that distract the audience..	Speaker appears generally at ease and confident. Speaker sometimes faces the audience and maintains eye contact. Speaker sometimes appears to be engaging with the audience. Speaker's body motions and gestures neither support nor detract from presentation.	Speaker appears fairly comfortable and confident. Speaker generally faces the audience and maintains good eye contact. Speaker generally appears to be engaging with the audience. Speaker uses body motions and gestures well.	Speaker appears very comfortable and confident. Speaker consistently faces the audience and maintains good eye contact. Speaker consistently appears to be engaging with the audience. Speaker uses body motions and gestures very effectively.
Quality of Verbal Communication	Speaker's voice is consistently too weak or too strong. Speaker fails to use inflections to emphasize key points and create interest or often uses inflections	Speaker's voice is frequently too weak or too strong. Speaker rarely uses inflections to emphasize key points and create interest or speaker sometimes uses	Speaker's voice is generally steady strong and clear. Speaker sometimes uses inflections to emphasize key points and create	Speaker's voice is steady, strong, and clear. Speaker often uses inflections to emphasize key points and create interest. Speaker's talking pace is mostly appropriate.	Speaker's voice is very confident, steady, strong, and clear. Speaker consistently uses inflections to emphasize key points or to create interest. Speaker's talking

	inappropriately. Speaker's talking paces is consistently too slow or too fast.	inflections inappropriately. Speaker's talking pace is often too slow or too fast.	interest. Speaker's talking pace is appropriate.		pace is consistently appropriate.
Visual Tools	Visual aids demonstrate no creativity or clarity and are often difficult to read. Presentation is weakened by the visual tools.	Visual aids have limited creativity or clarity or are sometimes difficult to read. Presentation is not enhanced by the visual tools.	Visual aids are reasonably creative, clear, and easy to read. Presentation is sometimes enhanced by the visual tools.	Visual aids are usually creative, clear, and easy to read. Presentation is often enhanced by the visual tools.	Visual aids are very creative, clear, and easy to read. Presentation is consistently enhanced by the visual tools.
Appropriate Use of Vocabulary	Few or no terms are included in the presentation. May or may not be used appropriately. Lacks context.	Several terms are included in the presentation. May or may not be used appropriately. May lack context.	Most terms are included in the presentation. Generally used appropriately. Generally used in appropriate context.	All terms are included in the presentation. Used effectively. Used in context.	All terms are included in the presentation. Used in unique and creative ways. Used in context
Precision and Detail in Documents Produced	Written documents have numerous errors and lack detail. Little carte taken in the production.	Documents may have some errors and show some detail. Some care has been taken in production.	Evident that written documents are correct and show a general attention to detail and accuracy. General care has been taken in production.	Clearly evident that written documents are correct, detailed and accurate. Care has been taken in production.	Documents are clear, well-constructed, accurate, and show attention to detail. Extra care has been taken in the production of written documents.
Overall Presentational Effectiveness	The presentation was weak and not effective.	The presentation was average and somewhat effective.	The presentation was good and effective.	The presentation was very good and effective.	The presentation was exceptional and extremely effective.

Empirical and Quantitative Skills RUBRIC

Adapted for Texarkana College from the AAC&U Critical Thinking VALUE Rubric

Definition

The ability to formulate an inquiry that is scientific or mathematical in nature, and then manipulate and analyze numerical data and/or follow an investigative process using empirical and/or quantitative reasoning to satisfy the inquiry and create informed conclusions.

	Does Not Meet Any Expectations 1	Meets Few Expectations 2	Meets Expectations 3	Exceeds Some Expectations 4	Exceeds All Expectations 5
Identification	The purpose, components, and variables of the investigation/project are not identified.	The purpose, components, and variables of the investigation/project are somewhat identified.	The purpose, components, and variables of the investigation/project are mostly identified	The purpose, components, and variables of the investigation/project are clearly identified..	The purpose, components, and variables of the investigation/project are clearly identified.
Assimilation	The information that is required for an analysis of all investigative components is not evident. If applicable, values are incorrectly translated into variables and no necessary formulas are present.	The information that is required for an analysis of all investigative components is somewhat evident. If applicable, values are incorrectly translated into variables and some necessary formulas are present.	The information that is required for an analysis of all investigative components is mostly evident. If applicable, some values are correctly translated into variables and most necessary formulas are present.	The information that is required for an analysis of all investigative components is evident. If applicable, most values are correctly translated into variables and all necessary formulas are present.	The information that is required for an analysis of all investigative components is clearly evident. If applicable, values are correctly translated into variables and all necessary formulas are present.
Analysis	Most investigative or quantitative components are not scrutinized. The steps followed are illogical and/or irrelevant to the desired result. The proper tools/ technology were not used and/or integrated into the final product. Any notation is not consistent and not defined.	Some investigative or quantitative components are scrutinized. Some steps followed are somewhat logical and relevant to the desired result. The proper tools/ technology were somewhat used and not integrated into the final product. Any notation is somewhat consistent but not defined.	All investigative or quantitative components are somewhat scrutinized. The steps followed are mostly logical and relevant to the desired result. The proper tools/ technology were mostly used and somewhat integrated into the final product. Any notation is mostly consistent and defined.	All investigative or quantitative components are scrutinized. The steps followed are logical and relevant to the desired result. The proper tools/ technology were used and mostly integrated into the final product. Any notation is consistent and well defined.	All investigative or quantitative components are methodically scrutinized. The steps followed are logical and relevant to the desired result. The proper tools/ technology were used and well integrated into the final product. Any notation is consistent and well defined.

Presentation	A summary of the analysis is either inadequately presented or not presented at all. The presented information is mostly incorrect, and/or of poor quality, and/or the terminology/figures are inaccurate and/or hard to understand. Few or no visual representations of evidence are acceptably scaled/ represent the analysis findings.	A partial summary of the analysis is presented. The presented information is somewhat correct, of adequate quality, and the terminology/figures are somewhat accurate and relatively easy to understand. Some visual representations of evidence are acceptably scaled and represent the analysis findings.	A summary of the analysis is presented. The presented information is mostly correct, of good quality, and the terminology/figures are mostly accurate and easy to understand. Most visual representations of evidence are acceptably scaled and represent the analysis findings.	A good summary of the analysis is presented. The presented information is correct, of good quality, and the terminology/figures are accurate and easy to understand. Most visual representations of evidence are well-scaled and/or well represent the analysis findings..	A concise summary of the analysis is presented. The presented information is correct, of high quality, and the terminology/figures are accurate and easy to understand. All visual representations of evidence are well-scaled and well represent the analysis findings.
Application	The integration does not include all steps of the investigation and does not lead to an accurate, nor complete conclusion that relates to the initial investigative argument.	The integration of most steps of the investigation lead to a somewhat accurate, partially complete conclusion that is relative to the initial investigative statement.	The coherent integration of most steps of the investigation lead to an accurate, mostly complete, acceptable conclusion that is relative to the initial investigative statement.	The coherent integration of all steps of the investigation lead to an accurate, mostly complete, relevant conclusion that is relative to the initial investigative statement.	The coherent integration of all steps of the investigation lead to an accurate, complete, relevant conclusion that is relative to the initial investigative statement.

Teamwork Skills RUBRIC

Adapted for Texarkana College from the AAC&U Critical Thinking VALUE Rubric

Definition

Teamwork is behaviors under the control of individual team members, their manner of interacting with others on team, and the quantity and quality of contributions they make to team discussions.

	Does Not Meet Any Expectations 1	Meets Few Expectations 2	Meets Expectations 3	Exceeds Some Expectations 4	Exceeds All Expectations 5
Contributes to Team Meetings	Does not collect any relevant information; no useful suggestions to address team's needs;	Shares ideas but does not advance the work of the group.	Offers new suggestions to advance the work of the group	Offers alternative solutions or courses of action that build on the ideas of others.	Helps the group move forward by articulating the merits of alternative ideas or proposals
Facilitates the Contributions of Team Members	Often argues with team mates; doesn't let anyone else talk; occasional personal attacks and "put-downs"; wants to have things done his way and does not listen to alternate approaches;	Engages group by taking turns and listening to others without interrupting.	Engages group by restating the views of other members and/or asking questions for clarification.	Engages group by constructively building upon or synthesizing the contributions of others..	Engages group by both constructively building upon and synthesizing the contributions of others as well as noticing when someone is not participating and inviting him/her to engage.
Individual Contributions Outside of Team Meetings	Completes no assigned tasks outside of team meetings.	Completes some assigned tasks by deadline.	Completes all assigned tasks by deadline; work accomplished advances the project.	Completes all assigned tasks by deadline; work accomplished and is thorough, comprehensive, and advances the project.	Completes all assigned tasks by deadline; work accomplished is thorough, comprehensive, and advances the project. Proactively helps other team members complete their assigned tasks to a similar level of excellence.
Fosters Constructive Team Climate	Is argumentative and does not work with the team.	Supports a constructive group climate by treating other members respectfully.	Supports a constructive group climate by treating other	Supports a constructive group climate by treating other	Supports a constructive group climate by treating other

			members respectfully and conveying a positive attitude about the group and its work.	members respectfully, conveying a positive attitude about the group and its work, and motivating other group members.	members respectfully, conveying a positive attitude about the group and its work, motivating other group members, and providing assistance to group members.
Responds to Conflict	Is not present enough to engage in conflict.	Passively accepts alternate viewpoints/ideas/opinions.	Redirects focus toward common ground, toward task at hand (away from conflict)..	Identifies and acknowledges conflict and stays engaged with it.	Addresses conflict directly and helps to manage/resolve it in a way that strengthens overall group cohesiveness.

SYLLABUS: Microbiology
Course Number: BIOL 2420
Semester and Year: Spring 2013
Instructor Information

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Textbook Information

"Microbiology, An Introduction", by Tortora, Funke, and Case (Eleventh edition).
ISBN: 13: 978-0-321-73360-3 10:0-321-73360-6

Student Learning Outcomes

Learning Outcome #1. To identify and describe aspects of Prokaryotic cell structure and relate this to the function of bacteria and the survival characteristics of bacteria.

Learning Outcome #2. To describe the universally accepted system of classifying living organisms and relate this to the characteristics of the different Kingdoms.

Learning Outcome #3. To identify and describe the functional and structural differences between DNA and RNA and relate these differences to cell functions.

Learning Outcome #4. To identify and describe key elements of Cellular Respiration, including Glycolysis, the Krebs cycle, and Electron transport.

Learning Outcome #5. To identify and describe the key steps in DNA Replication, Transcription, and Translation.

Learning Outcome #6. To identify and describe different ways in which microscopic pathogens can be transmitted to humans, and relate this to examples of infectious diseases.

Learning Outcome #7. To identify and describe the make-up of the main types of vaccines, and relate this to the recommended vaccine schedule.

Learning Outcome #8. To identify and describe the main components of antibody-mediated immunity and cell-mediated immunity, and relate this to the infectious process of HIV.

Learning Outcome #9. To identify and describe the causes of various bacterial infections and viral infections that affect the different systems of the body.

Student requirements for Completion of the Course

Lecture: There will be 5 lecture exams in this course. A regular lecture exam will be 40 multiple choice and 2 discussion questions. There will be a review sheet and a review session for each lecture exam. The final exam will have 2 parts: the Comprehensive final and the Noncomprehensive final. The Comprehensive final will be 50 multiple choice questions that come from the multiple choice questions on the old exam papers. The Noncomprehensive final will be 40 multiple choice questions and 2 discussion questions over the last few chapters covered. **All students are required to take both parts of the final exam.** The two parts of the final exam will be averaged together to make a 100 point grade. If a student misses no lecture exams or one lecture exam, the grade on the Comprehensive part of the final exam can take the place of their lowest lecture exam grade. There will be 3 chapter quizzes in this course. Each chapter quiz will cover a few pages from the textbook. Each chapter quiz will be 11 multiple questions. The chapter quizzes will be added together to make a 100 point grade. If a student misses no chapter quizzes or one chapter quiz, the grade on the chapter quiz make-up can take the place of their lowest chapter quiz grade.

Laboratory: There will be 3 lab practicals in this course worth 100 points each. A lab practical will be 50 multiple choice questions. There will be a review sheet and a review session for each lab practical. There will also be 12 group lab write-ups that will be open-note and open-book. The average grade on the 12 lab write-ups combined will be worth 100 points. There will be six extra credit exercises in lab, each worth 5 points. There will be a maximum of 20 extra credit points a student can earn, and these points will be added to the lowest lab practical grade after all the lab practicals have been taken.

Student Assessment

You will have the following possibilities for earning points:

Lecture:

(1) Five lecture exams	500 total points
(2) Three chapter quizzes	100 total points
	600 total points

Laboratory:

(1) Three lab practicals	300 total points
(2) Twelve lab write-ups	100 total points
	400 total points

Grading Scale

Lecture: 70% of grade
Laboratory: 30% of grade

A= 90-100
B= 80-89
C= 70-79
D= 60-69
F= 59 or below

The cutoff point for rounding is .45. A final average of 89.45 is and A and a final average of 89.44 is a B.

Class Schedule

Lecture:

Unit	Material to be covered
Unit 1	Chapters 1,2, and 4
Unit 2	Chapters 5-8*
Unit 3	Chapters 8*, 14-16
Unit 4	Chapters 17-19
Unit 5	Chapters 21-26

Laboratory:

Unit	Material to be covered
Unit 1	Labs 1-4
Unit 2	Labs 5-8
Unit 3	Labs 9-12

Absentee Policy

Texarkana College's absentee policy allows instructors to withdraw a student from a course due to excessive absences. Faculty members are not obligated to provide opportunities for students to make-up missed assignments and tests as a result of student's absence from class. The institution is not required to take attendance with the exception of workforce/vocational areas, where certification requirements require taking attendance. However, experience demonstrates that regular attendance enhances academic success. As such, students are expected to attend each meeting of their registered courses.

A student should not stop attending a class without formally withdrawing from the course by the institutions published Last Day for Students to Drop. If a student stops attending class after the published Last Day for Students to Drop, the student may receive a grade of "F" in the class. The instructor will submit the last date of attendance for students receiving a grade of "F" of "W".

LAST DAY FOR STUDENTS TO DROP A CLASS: _____

Withdrawal from a course(s) **may** affect a student's current or future financial aid eligibility. Students should consult the Financial Aid Office to learn both short and long term consequences of a withdrawal.

A student's absence due to school trips and/or school business will not be counted against a student's allowable number of absences. Military duty and absences for Holy Days (FBD LEGAL) are covered in a separate section of the catalog and the student handbook. These are the only excused absences that are considered by Texarkana College. Responsibility for work missed for any absence is placed on the student. Instructors are required to allow students to make up work missed if the absence is due to military duty or religious holy days when students follow the correct notification procedures. Instructors are not required to allow students to make up work for absence due to other reasons. Make-up policies are listed in each individual instructor's syllabus.

After official registration, the following number of unexcused absences will be the maximum allowable before a student **may** be dropped from the class. In this course, an absence in lecture will be considered a full absence, but an absence in lab will considered a one-half (1/2) absence.

Class or Lab Meets:	An instructor **may** withdraw a student from a course if absences exceed:
Twice a week (MW orTR classes)	4

Make-up Policy

Lecture:

-One missed lecture exam grade will be made up by the grade a student makes on the comprehensive part of the final exam. A second missed lecture exam must be made up with a comprehensive make-up exam that is all discussion questions. This make-up exam can only be taken the last week of classes. The grade a student makes on the comprehensive part of the final exam can also take the place of the student's lowest lecture exam grade.

-Students will receive a grade of 0 for a third, fourth, or fifth missed exam.

-Students may take lecture exams early if they receive approval from the instructor.

-No student will be allowed to begin a regular lecture exam more than 10 minutes late.

-Students who begin the final exam more than 10 minutes late with an "emergency situation" type excuse will be allowed to take the final exam late for full credit.

-Students who begin the final exam more than 10 minutes late without an "emergency situation" type excuse will be allowed to take the final exam late but they will have 25 points deducted from their overall grade for the final exam. The instructor reserves the right to decide what a legitimate excuse is after verification by way of a note and phone call.

-Chapter quizzes can only be taken at the designated time for each student in their particular lecture section.

-Up to 2 missed chapter quiz grades can be made up by taking a quiz during the last week of classes.

-A grade of 0 will be recorded for a third missed chapter quiz.

Laboratory:

-Lab practicals can only be taken at the designated time for each student in their particular lab section.

-A make-up exam must be taken for missed lab practicals. Up to 2 missed lab practicals can be made up with the grade on this written, comprehensive lab make-up exam.

-The lab make-up exam must be taken during the last week of class (the week before

final exams).
-A grade of 0 will be recorded for a third missed lab practical.
-No student will be allowed to start a lab practical more than 10 minutes late.
-Group lab write-ups will be due at the end of the lab period on the announced due date. Any group lab write-up turned in late will have 5 points deducted from the grade. Lab projects cannot be started late.
-Up to 2 missed group lab write-up grades can be made up by taking a comprehensive make up quiz during the last week of the semester. A grade of 0 will be recorded for any group lab write-up grades missed beyond the first two.

The instructor for this course reserves the right to give a student a No Grade (NG) for a missed test. This would include special circumstances such as bad weather or a Texarkana College function.

Academic Integrity Statement

Scholastic dishonesty, involving but not limited to cheating on a test, plagiarism, collusion, or falsification of records will make the student liable for disciplinary action after being investigated by the Dean of Students. Proven violations of this nature will result in the student being dropped from the class with an "F".

This policy applies campus wide, including TC Testing Center, as well as off-campus classroom or lab sites, including dual credit campuses. This information can be found in the Student Handbook at https://texarkanacollege.edu.

Disability Act Statement:

Texarkana College complies with all provisions of the Americans with Disabilities Act and makes reasonable accommodations upon request. Please contact Larry Andrews at 903.823.3283, or go by the Recruitment, Advisement, and Retention Department located in the Administration building for personal assistance.

If you have an accommodation letter from their office indicating that you have a disability which requires academic accommodations, please present it to me so we can discuss the accommodations that you might need for this class. *It is best to request these changes at the beginning if not before the start of class* so there is ample time to make the accommodations..

Financial Aid:

Attention! Dropping this class may affect your funding in a negative way! You could owe money to the college and/or federal government. Please check with the Financial Aid office before making a decision.

MICROBIOLOGY

I have and read and understood the policies in the syllabus for this course and

I understand these policies are legally binding.

_____ _____

NAME DATE

Student Learning Outcomes by Course

Program Area:	Course Number/Name:		Semester/Date:
Biology	BIOL 2420 Microbiology		SPRING SEMESTER 2013 May 15, 2013

Student Learning Outcomes (SLO)	Assessment Tool	Desired Measurable Results	Actual Results	Use of Results	New Action Plan	Justification
To identify and describe aspects of Prokaryotic cell structure and relate this to the function of bacteria and the survival characteristics of bacteria.	Pre-/Post-Test Comparison Score	An increase of at least 50 percentage points in students achieving at least 70% success.	Pre-test 1/119 (1%) Post-test: 86/118 (73%) Increase of 72 percentage points	Desired Results Met: Continue Existing Plan	Continue Existing Plan	Desired results met
To describe the universally accepted system of classifying living organisms and relate this to the characteristics of the different Kingdoms.	Pre-/Post-Test Comparison Score	An increase of at least 50 percentage points in students achieving at least 70% success.	Pre-test 1/119 (1%) Post-test: 86/118 (73%) Increase of 72 percentage points	Desired Results Met: Continue Existing Plan	Continue Existing Plan	Desired results met
To identify and describe the functional and structural differences between DNA and RNA and relate these differences to cell functions.	Pre-/Post-Test Comparison Score	An increase of at least 50 percentage points in students achieving at least 70% success.	Pre-test: 1/119 (1%) Post-test: 88/112 (79%) Increase of 78 percentage points.	Desired Results Met: Continue Existing Plan	Continue Existing Plan	Desired results met
To identify and describe key elements of Cellular Respiration, including Glycolysis, the Krebs cycle, and Electron transport.	Pre-/Post-Test Comparison Score	An increase of at least 50 percentage points in students achieving at least 70% success.	Pre-test: 1/119 (1%) Post-test: 88/112 (79%) Increase of 78 percentage points.	Desired Results Met: Continue Existing Plan	Continue Existing Plan	Desired results met
To identify and describe the key steps in DNA Replication, Transcription, and Translation.	Pre-/Post-Test Comparison Score	An increase of at least 50 percentage points in students achieving at least 70% success.	Pre-test: 4/119 (3%) Post-test: 87/110 (79%) Increase of 76 percentage points.	Desired Results Met: Continue Existing Plan	Continue Existing Plan	Desired results met
To identify and describe different ways in which microscopic pathogens can be transmitted to humans, and relate this to examples of infectious diseases.	Pre-/Post-Test Comparison Score	An increase of at least 50 percentage points in students achieving at least 70% success.	Pre-test: 4/119 (3%) Post-test: 87/110 (79%) Increase of 76 percentage points.	Desired Results Met: Continue Existing Plan	Continue Existing Plan	Desired results met
To identify and describe the make-up of the main types of vaccines, and relate this to the recommended vaccine schedule.	Pre-/Post-Test Comparison Score	An increase of at least 50 percentage points in students achieving at least 70% success.	Pre-test: 2/119 (2%) Post-test: 86/99 (87%) Increase of 85 percentage points.	Desired Results Met: Continue Existing Plan	Continue Existing Plan	Desired results met
To identify and describe the main components of antibody-mediated immunity and cell-mediated immunity, and relate this to the infectious process of HIV.	Pre-/Post-Test Comparison Score	An increase of at least 50 percentage points in students achieving at least 70% success.	Pre-test: 2/119 (2%) Post-test: 86/99 (87%) Increase of 85 percentage points.	Desired Results Met: Continue Existing Plan	Continue Existing Plan	Desired results met
				Not Yet Applicable		
				Not Yet Applicable		

				Not Yet Applicable		
				Not Yet Applicable		
				Not Yet Applicable		
				Not Yet Applicable		
				Not Yet Applicable		
				Not Yet Applicable		
				Not Yet Applicable		

MICROBIOLOGY
LAB 11 WRITE-UP

-In this exercise, students work in groups on a lab write-up that involves two case studies regarding actual patients. The students are allowed to used their notes and their textbook to answer questions about these two cases.

-To complete this exercise, students must communicate in group settings and agree on an answer for the group write-up. Each group turns in one write-up with all of their names on it and all members of the group receive the same grade.

-In order to answer the questions in this exercise, students must use critical thinking skills to connect certain pieces of information and come up with the correct answer. The answes are not obvious so the students must link together what they know to be successful.

- Students in this exercise play the role of a medical technologist and the role of physician. They must understand how the lab tests are performed, and they must be able to draw conclusions regarding the results of the lab tests. In order to draw the correct conclusions, the studens must make inferences regarding numerical data and non-numerical data.

LAB 11 WRITE-UP

Lab write-ups are to be done on notebook paper. Be sure to include the names of all participating group members and your **LAB TIME.** Due date: _____

CASE STUDY

The patient presented as a 55 year old male with a 2 month history of fevers, night sweats, cough with greenish, blood-specked sputum, and a 25 pound weight loss. The patient denied intravenous (i.v.) drug use and homosexual activity. He has had multiple sexual encounters, "sips" a pint of gin a day, was jailed 2 years ago in New York City, and has a history of gunshot and stab wounds. His physical exam was significant for bilateral anterior cervical and axillary adenopathy and a temperature of 39.4° C (102.9° F). His chest radiograph showed paratracheal adenopathy and bilateral interstitial infiltrates. His significant lab findings are as follows:

TOTAL WHITE COUNT:	1,800/mm^3	
DIFFERENTIAL WHITE COUNT:	WBC	%
	NEUTROPHIL	85
	LYMPHOCYTE	2
	MONOCYTE	9
	EOSINOPHIL	4
	BASOPHIL	1
INDIRECT ELISA: HIV	+	
WESTERN BLOT: HIV	+	
CD4+ LYMPHOCYTES:	105/mm^3	
ACID-FAST STAIN FROM SPUTUM:	+	
PPD:	-	
MUMPS:	-	
Candida albicans	-	

1. What is the significance of this patient's total white count?
2. What is the significance of this patient's differential white count?
3. If the patient's Indirect ELISA test came back positive, what exactly did they find in the patient?
4. If the patient's Western blot test came back positive, what exactly did they find in the patient?
5. What is the significance of this patient's CD4+ Lymphocyte count?
6. What is the significance of this patient's acid-fast stain result?
7. What is the significance of the PPD test, Mumps test, and Candida albicans test all being negative?
8. What is the name of the pathogen causing this patient's primary infection?
9. What are some risk factors for this patient getting the primary infection?
10. What is the name of the pathogen causing this patient's secondary infection?
11. What are some risk factors for this patient getting the secondary infection?