SYLLABUS

BIOL 3034 General Microbiology
Fall 2019

Instructor:	Victoria Mgbemena, Ph.D.
Section # and CRN:	Section P03/ 14214 Section P82/ 13549 Section P83/ 14219
Office Location:	E.E. O'Banion Science Building room 430 AC
Office Phone:	936-261-3171
Email Address:	vemgbemena@pvamu.edu
Office Hours:	MW 1-2:50 p.m.; F 11-11:50 a.m., by appointment
Mode of Instruction:	Face to Face
Course Location:	Lecture room 101 / Lab room 308
Class Days & Times:	TR (Lecture) 9:00-9:50 a.m. MW (Lab) 11:00-12:50 p.m. TR (Lab) 10:00-11:50 a.m.
Catalog Description:	Morphology, physiology, classification, and cultivation of the microorganism relevant to agriculture, pre-medicine, and industry. Prerequisites: CHEM 1033, BIOL 1015, or equivalent. Laboratory fee required.
Prerequisites:	Undergraduate level CHEM 1033 Minimum Grade of C and Undergraduate level BIOL 1015 Minimum Grade of C
Co-requisites:	None
Required Texts:	**Required Resource:** Lecture Textbook: Prescott's Microbiology MHHE Willey et al: ConnectPlus Access Card with LearnSmart for Prescott's Microbiology © 2019 Purchase online price = $87.50 **ISBN 9781260409154** **Connect is required for class.** Registration dates are limited, so please register as soon as possible. There is a 2 week access period. https://connect.mheducation.com/class/v-mgbemena-general-microbiology-14214-biol-3034-p03_fa-2019 If you prefer to purchase the hardcover textbook: Prescott's Microbiology, 10th Edition © 2017, Joanne Willey and Linda Sherwood and Christopher J. Woolverton. Publisher: McGraw-Hill **ISBN: 9781260211887**
Recommended Materials:	Lab notebook, Blue / black pens, #2 lead pencils, colored pencils, notebook paper, calculator, access to computer / printer

Student Learning Outcomes:

	Upon successful completion of this course, students will be able to:	Program Learning Outcome # Alignment	Core Curriculum Outcome Alignment
1	Demonstrates knowledge of the basic principles and concepts of life at the microscopic level as it pertains to microbes.	Critical Thinking	Critical Thinking
2	Comprehends the theoretical concepts in microbiology so that they may use this as a basis for future studies; whether it be in Agriculture, Biology, Commercial Foods, Dietetics, Medical Technology, Medicine, Dentistry, Nutrition, Public Health and Biological Research.	Critical and Analytical Thinking	Critical Thinking Communication Teamwork
3	Analyze the interrelationships among the microorganisms and between microorganisms and higher living forms.	Critical Thinking	Critical Thinking
4	Demonstrate the proper techniques and procedures to handle microscopic living organisms, many of which are pathogenic.	Discipline Specific Knowledge	Communication
5	Incorporation of ***Novel Technology*** including culture techniques to understand the role of microorganisms in infection and disease.	Integration of Broad Knowledge	Team Work

Purpose of Course: Microorganisms are important life forms to the welfare and the endeavors of humans. This is especially true in fields of study such as Agriculture, Biology, Commercial Foods, Dietetics, Medical Technology, Medicine, Dentistry, Nutrition, Public Health and Biological Research. Therefore, persons whose major or minor interests are in one of these areas, or in a related area, should benefit with information about microorganisms and microscopic living forms. This course is designed to provide the information and explanations about microorganisms.

Major Course Requirements

Method of Determining Final Course Grade

Course Grade Requirement	Value	Total
1) 1 Practical Lab Exam	100 points	100 points
2) 1 Research Project/Cumulative Lab Final	100 points	100 points
3) 3 Hourly Lecture Exams	100 points	300 points
4) 4 Online Lecture Quizzes (Connect)	12.5 points	50 points
5) 4 Online Homework Assignments (Connect)	12.5 points	50 points
6) 1 Final Lecture Exam	100 points	100 points

Total: total points earned/700 X 100 = percentage

Grading Criteria and Conversion:

A = 89.45% to 100%
B = 79.45% to 89.44%
C = 69.45% to 79.44%
D = 59.45% to 69.44%
F = 0% to 59.44%

This grading criteria is set and will not change under any circumstances

Course Procedures or Additional Instructor Policies

Taskstream
Taskstream is a tool that Prairie View A&M University uses for assessment purposes. One of your assignments may be considered an "artifact" an item of coursework that serves as evidence that course objectives are met. More information will be provided during the semester, but for general information, you can visit Taskstream via the link in eCourses.

Attendance Policy: Students are expected to be **present and on time** for all scheduled lectures and laboratory periods. During these times lectures will be given, laboratory demonstrations will be conducted and exercises will be assigned and all pertinent questions answered. **If a student is tardy, absent, or has otherwise missed instruction pertinent for completing assignments and assessments, it is the student's express responsibility to get those notes and assignments.**

Absences: While it is understood that the student will make an effort to attend all lectures and laboratories, there are times when the student may be absent. Excused absences are those that are due to illness, attendance at university approved functions, civil or military services, or family bereavements. In the event that the student has missed an hourly lecture exam, the student will be required to take an oral makeup examination, scheduled at the instructor's discretion. Documentation **must** be provided to me, the instructor, prior to the event or immediately upon (the day of) the student's return to class. Only verifiable, excused absences will be accepted. Please understand that while the instructor will strive to keep grades updated in a timely manner, the later an assessment is taken, the more time it may take to reflect an update in the grade.

Evaluation for the Lecture: In the lecture there will be one hourly examination and a final examination, each worth 100 points. The examinations will cover those topics covered in class, from the textbook and laboratory exercises. A portion of the exam will be completed on a Scantron form. You must provide **your own** #2 pencil and Scantron form. The final lecture exam will **not** be cumulative. The **final exam** for this course is scheduled for **December 10th, 8:00 a.m. – 10:00 a.m. Please do not make plans to travel before December 10th**. The instructor will be unable to accommodate any exams before or after the scheduled final exam period, so students should plan accordingly.

Lecture Quizzes: The instructor will provide instructions for preparing for each lecture quiz. Each individual quiz is worth 12.5 pts each and will be completed approximately weekly, **online through Connect** (please see the course schedule for dates). Students will have ample time to complete quizzes, and as such, no "absence" (excused or otherwise) will exempt a student from completion of a quiz. **No quizzes will be dropped**.

Evaluation for the Laboratory: There will be one laboratory practical and one research project or laboratory comprehensive final each worth 100 points. The laboratory practical will be an assessment that evaluates the student's mastery of laboratory instruction and techniques up until the point of examination. As such, it is the student's responsibility to seek clarification and guidance for techniques if necessary. A Scantron and #2 pencil will be required for the exams. If the practical is missed for any reason, excused or unexcused, the student's **comprehensive laboratory final** taken at the end of the course will be substituted and counted twice.

Homework Assignments:
There will be a total of four (4) homework assignments worth 12.5 points each. These assignments are to be completed online using Connect. **All** homework assignments will be due at the end of the course by **11:59 p.m. CST, December 10th.** The student may pace themselves as necessary to complete these assignments, and will not be penalized for early submissions. As such, there will be no extensions granted to makeup incomplete or missed assignments for any reason.

Other Assignments: The instructor reserves the discretion to include extra credit opportunities if she deems it necessary.

Microbiology **BIOL 3034-P03**
Instructor: Dr. Victoria Mgbemena
Weekly Schedule for Fall 2019

The following schedule is **TENTATIVE** only. The academic schedule is subject to change.
The student is advised to read the assigned chapter for each class day **before s**he/he comes to class. Dr. Mgbemena reserves the right to change the calendar as she deems fit for the class.

Date (week)	Lecture	Lab
August 26 –30	**CH 1 Microbiology**	Laboratory Safety and Introduction to the Lab Chapter 2 Prescott's Microbiology pg 22-41 Intro to Microscopy/Slides
Sept 3–6	**CH 3 Bacterial Cell Structure**	Slides Nutrient Broth and Nutrient Agar Preparation Aseptic Transfers and Inoculation Methods Chapter 7 (7.5-7.6) Prescott's Microbiology
Sept 9–13	**CH 6 Viruses** **Lecture Quiz 1 in Connect Due: by 11: 59 p.m., Sept. 12**	Chapter 5 Eukaryotic cell structure Section 5.1-5.3 Prescott's Microbiology
Sept 16–20	**CH 7 Bacterial and Archaeal Growth** **Exam 1: Ch 1, Ch 3, Ch 6 Sept 19**	Microbial Growth Chapter 7 Prescott's Microbiology **Assign Projects**
Sept 23–27	**CH 13 Bacterial Genome Replication and Expression**	Viruses Chapter 6 Prescott's Microbiology **Projects**
Sept 30–Oct 4	**CH 13 and CH 16 Mechanisms of Genetic Variation** **Lecture Quiz 2 in Connect Due: by 11: 59 p.m., Oct 3**	Simple Stain Gram Stain *Biochemical tests* Projects Literature Review **Projects**
Oct 7-Oct 11	**CH 27 Microbial Interactions**	Control of Microorganisms Chapter 8 Prescott's Microbiology **Projects** **Lab Practical Exam -Oct 9-P83, Oct 10-P82**
Oct 14-Oct 18	**CH 35 Pathogenicity and Infections** **CH 36 Epidemiology and Public Health Microbiology** **Exam 2: Ch 7, Ch 13, Ch 16 Oct. 17**	Control of Microorganisms Antimicrobial Chemotherapy Chapter 8 and 9 Prescott's Microbiology (cont'd.) **Projects**

Oct 21-Oct 25	**CH 35, CH 36**	**Projects**
Oct 28-Nov 1	**CH 37 Clinical Microbiology and Immunology** **Lecture Quiz 3 in Connect Due: by 11: 59 p.m., Oct. 31**	Bioinformatics Lab Chapter 18 (18.3) **Projects**
Nov 4-Nov 8	**CH 37, CH 39 Human Disease caused by Bacteria**	Clinical Case Study
Nov 11-Nov 15	**CH 39 Human Disease caused by Bacteria** **Exam 3: Ch 32, 35, 36 Nov 14**	**Projects** Presentations—Nov. 13-14
Nov 18- Nov 22	**CH39** **Ch 41 Microbiology of Food** **Lecture Quiz 4 in Connect Due: by 11: 59 p.m., Nov. 21**	**Projects** Presentations—Nov. 27-28
Dec 2- Dec 3	**Study/Review Days**	**Comprehensive Lab Final (if needed) Dec. 2/3**
Dec 10 8:00 a.m. – 10:00 a.m.	**Final Exam, Ch 1, 3, 6, 7, 35, 36, 37, 39**	

Current Events will be discussed throughout the entire semester

Research Project

At the beginning of class, students will be divided up into groups of two to four and will conduct a microbiology-related project during the semester which will incorporate the use of microbiological techniques, reagents and the scientific method. Students will report their findings in a research paper. Students will also present their data and research at the end of the course through PowerPoint or other media. A student wanting to conduct an individual project must clear their project idea and design with the instructor before-hand.

Authentic Research Experience in PVAMU Microbiology: Authentic Research Experience in PVAMU Microbiology is a modular approach to integrating research into the general biology or microbiology curriculum. The goal is to support cutting edge research-based projects in Microbiology that involves diverse subject matter in the area of, Botany, Chemical Engineering, Genetics, Computer Science and Technology. Microbiology is a subject matter that intercepts every biological discipline and is important in the day-to-day activities. In efforts to increase retention of material and improved the overall educational experience in the classroom, the projects will provide each registered student in the class an authentic research approach to learning the concepts in the class.

Sample projects

Project 1: Microbiome Project (Environmental Microbiology). The focus of our project evaluates the microbiome that exist in the environment to determine the causal relationship that the soil microflora has on all life.

Project 2: The Impact of Genetically Modified Organisms on Grocery Shopping Behavior. This project will determine the presence of Genetically modified organisms (GMOs) which is defined as organisms (i.e. plants, animals or microorganisms) where the genetic material (DNA) has been altered impact on grocery shopping behavior. Students will test several food samples from the area grocery stores for the presence of GMOs.

Project 3: Rhizobium Impact on Plant Growth. Symbiotic relationships in microbiology are significant and teaching the concepts from the textbook alone does not illustrate the full concept. Previous studies with a former student evaluated if the present of light played a role in the inhibition of production of the nodules and has set an platform for further investigations. This intersection of Botany and Microbiology will opens the dialogue of interdisciplinary research and the importance of symbiotic relationships.

Project 4: Evaluation of novel organic compounds antimicrobial properties. The study will allow for students to evaluate the ability of novel compounds to inhibit microbial growth. The students will also evaluate the chemical composition of the compounds to establish mechanism of action.

Project 5: Develop of App for Microbiology concepts and theories. The students will seek ways to improve material retention and comprehension of microbiological content by developing an interactive app.

Project 6: Microbial Science Policy, Communication and Outreach. Students will focus on one concept in microbiology and present sustainable ways to present the concept to lay people. They will also construct a mock bill that addresses educational, agricultural or environmental reform in microbial science.

Student Support and Success

John B. Coleman Library

The library and its partners have as their mission "to provide resources and instructional material in support of the evolving curriculum, as a partner in Prairie View A&M University's mission of teaching, research, and service" and to support the University's core values of "access and quality, diversity, leadership, relevance, and social responsibility" through emphasis on ten key areas of service. It maintains library collections and access both on campus, online, and through local agreements to further the educational goals of students and faculty.

Center for Academic Support

The Center for Academic Support (CAS) offers Tutoring via peer tutoring. The services include workshops (i.e., Save My Semester, Recalculate Your Route), seminars (i.e., Tools You Can Use: TI-84), group review sessions (i.e., College Algebra Topic Reviews, GRE Preparation), group study opportunities (i.e., TSIA, HESI, Study Break, Exam Cram), and test-taking strategies (How to take Notes, Study Buddy, 5 Day Study Guide). The Tutoring Center is a nationally certified tutoring program through the National Tutoring Association. The peer tutors are trained and certified by the coordinator each semester. Location: J.B. Coleman Library

COMPASS

The Center for the Oversight and Management of Personalized Academic Student Success (COMPASS) is designed to help Prairie View students in their second year and beyond navigate towards graduation by providing the following services: Academic Advisement, Targeted Tutorials for Personalized Learning, CampusWide Referrals, and Academic & Social Workshops. Location: J.B. Coleman Library.

Writing Center
The Writing Center provides student consultants on all aspects of the writing process and a variety of writing assignments. Writing Center consultations assist students in such areas as prewriting, brainstorming, audience awareness, organization, research, and citation. Location: Hilliard Hall 121

University Rules and Procedures

Disability statement (See Student Handbook):
Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities (SSD) early in the semester so that appropriate arrangements may be made. In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the SSD coordinator.

Academic misconduct (See Student Handbook):
You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with your Student Handbook, especially the section on academic misconduct. Students who engage in academic misconduct are subject to university disciplinary procedures.

Forms of academic dishonesty:

1. Cheating: deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not mastered; giving or receiving aid unauthorized by the instructor on assignments or examinations.

2. Academic misconduct: tampering with grades or taking part in obtaining or distributing any part of a scheduled test.

3. Fabrication: use of invented information or falsified research.

4. Plagiarism: unacknowledged quotation and/or paraphrase of someone else's words, ideas, or data as one's own in work submitted for credit. Failure to identify information or essays from the Internet and submitting them as one's own work also constitutes plagiarism.

Nonacademic misconduct (See Student Handbook)
The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor's ability to conduct the class, (2) the inability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. Such incidents will be adjudicated by the Dean of Students under nonacademic procedures.

Sexual misconduct (See Student Handbook):
Sexual harassment of students and employers at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating this policy will be subject to disciplinary action.

Attendance Policy
Prairie View A&M University requires regular class attendance. Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in assignment of a grade of "F". Absences are accumulated beginning with the first day of class.

Student Academic Appeals Process
Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the

instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

Disability statement (See Student Handbook):
Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities (SSD) early in the semester so that appropriate arrangements may be made. In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the SSD coordinator.

TECHNICAL CONSIDERATIONS

***Minimum* Recommended Hardware and Software:**

- Intel PC or Laptop with Windows 7; Mac with OS X; Smartphone or iPad/Tablet with Wi-Fi
- High speed Internet access
- 8 GB Memory
- Hard drive with 320 GB storage space
- 15" monitor, 800x600, color or 16 bit
- Sound card w/speakers
- Microphone and recording software
- Keyboard & mouse
- Most current version of Google Chrome, Safari, Internet Explorer or Firefox

Note: Be sure to enable Java & pop-ups

Participants should have a basic proficiency of the following computer skills:

- Sending and receiving email
- A working knowledge of the Internet
- Proficiency in Microsoft Word (or a program convertible to Word)
- Proficiency in the Acrobat PDF Reader
- Basic knowledge of Windows or Mac O.S.

***Netiquette* (online etiquette):**
Students are expected to participate in all discussions and virtual classroom chats, if applicable, as directed. Students are to be respectful and courteous to others on discussions boards. Foul or abusive language will not be tolerated.

***Technical Support*:**
Students should go to https://mypassword.pvamu.edu/ if they have password issues. The page will provide instructions for resetting passwords and contact information if login issues persist. For other technical questions regarding eCourses, call the Office of Distance Learning at 936-261-3283.

***Communication Expectations and Standards*:**
Emails or discussion postings will receive a response from the instructor, usually in less than 48 hours. Urgent emails should be marked as such. Check regularly for responses.

Discussion Requirement:
Online courses often require minimal to no face-to-face meetings. However, conversations about the readings, lectures, materials, and other aspects of the course can take place in a seminar fashion. This will be accomplished by the use of the discussion board. The exact use of discussion will be determined by the instructor.

It is strongly suggested that students type their discussion postings in a word processing application and save it to their PC or a removable drive before posting to the discussion board. This is important for two reasons: 1) If for some reason your discussion responses are lost in your online course, you will have another copy; 2)

Grammatical errors can be greatly minimized by the use of the spell-and-grammar check functions in word processing applications. Once the post(s) have been typed and corrected in the word processing application, it should be copied and pasted to the discussion board.

Academic Calendar – Fall 2019 *subject to change without notice

Jun 15 **Saturday**	Deadline to Submit Financial Aid Verification Documents
Jun 15 **Saturday**	Financial Aid Satisfactory Academic Progress (SAP) Appeal Deadline
Aug 22 **Thursday**	Registration for All Students
Aug 26 **Monday**	First Class Day
Aug 26 **Monday**	Tuition & Fees Payment Due Date
Aug 26 - Sep 03 **Monday through Tuesday**	Attendance Reporting Period (NS/SH) Students who do not attend class during this period will have their courses removed and financial aid reduced or cancelled
Aug 26 **Monday**	Late Registration Fee Begins ($50.00)
Aug 30 **Friday**	Final Day to Register with Late fee 12:00 am - 12:00 am
Aug 31 **Saturday**	Final Day to Add a class(s) for credit
Sep 02 **Monday**	Labor Day Holiday (University Closed)

Sep 09 **Monday**	Financial Aid Refunds Begin
Sep 11 **Wednesday**	12th Class Day (Census Date)
Sep 11 **Wednesday**	Final Day to Drop/Withdraw from Course(s) without Academic Record (A Financial Record will still exist)
Sep 12 **Thursday**	Withdrawal from Courses with Academic Record (“W”) Begins
Sep 17 **Tuesday**	Drop for Non-Payment of Tuition and Fees @ 5:00 p.m.
Oct 17 - Oct 19 **Thursday through Saturday**	Mid-Semester Examination Period
Oct 22 **Tuesday**	Mid-Semester Grades Due
Oct 31 **Thursday**	Final Date to Apply for Fall 2019 Graduation (ceremony participation)
Nov 01 **Friday**	Final Day to Withdraw from Course(s) with Academic Record (“W”)
Nov 01 **Friday**	Application for Graduation-Degree Conferral only for Fall 2019 Graduation Begins (no ceremony participation or name listed in the program)
Nov 01 **Friday**	Final Day to Withdraw from Course(s) with Academic Record (“W”) – Fall 2019 16-week session
Nov 11 **Monday**	Priority Registration for continuing students for Spring and Summer semesters

Nov 18 **Monday**	Pre-Registration for all other student for the Spring and Summer semesters
Nov 21 - Nov 22 **Thursday through Friday**	Thanksgiving Holiday (University Closed)
Dec 02 - Dec 03 **Monday through Tuesday**	Course Review Days (Classes must convene and instructors will prepare students for final exams)
Dec 03 **Tuesday**	Final Day to Apply for Degree Conferral only for Fall 2019 Graduation (no ceremony participation or name listed in the program)
Dec 03 **Tuesday**	Last Class Day
Dec 03 **Tuesday**	Final Day to Submit Application for Tuition Rebate for Fall Graduation 2019 (Undergraduate Candidates)
Dec 03 **Tuesday**	Final Day to Withdraw from the University (from all courses) for the Fall 2019 16-week session
Dec 04 - Dec 10 **Wednesday through Tuesday**	Final Examination
Dec 12 **Thursday**	Final Grades due for Graduation Candidates (12:00 p.m.) – Fall 2019 16-week session
Dec 14 **Saturday**	Commencement
Dec 17 **Tuesday**	Final Grades due for all other students (11:59 p.m.)