SYLLABUS

BIOL 3034 P01 General Microbiology
Fall 2019

Instructor: Quincy C Moore III, Ph.D.
Section # and CRN: Section P01/ 12994 Section P61/ 13160

Office Location: Library 3rd Floor Honors Program
Office Phone: 936-261-5256
Email Address: qcmoore@pvamu.edu
Office Hours: Tuesday and Thursday 10:00-10:50 (room 404) / Wednesday 11:00-11:50 (3rd floor Library)
Other times are available by appointment
Mode of Instruction: Face to Face

Course Location: Lecture room 104/ Lab room 308
Class Days & Times: Tuesday and Thursdays Lecture 2-2:50 a.m. / Lab 8-9:50am
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: Lecture Textbook: Prescott's Microbiology
MHHE Willey et al: ConnectPlus Access Card with LearnSmart for Prescott's Microbiology © 2014 Purchase online price = $92 **ISBN** 9781260409154
Connect is required for class and Registration dates are limited please register as soon as possible. There is a 2 week trial period.
https://connect.mheducation.com/class/q-moore-iii-dr-moores-microbiology-class

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 Microplate Analysis and Tissue 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) 2 Practical Lab Exams	25 points each	50 points
2) 2 written Lab exams	50 points each	100 points
3) Comprehensive final lab exam	100 points	100 points
4) 4 hourly lecture exams	100 points	400 points
5) Connect homework assignments	100 points	100 points
6) 10 Lecture quizzes (assigned to exam)	10 points	100 points
7) 10 Lab reports	5 points	50 points
8) Comprehensive Final Exam *if final only consist of 1 chapter, the total points is worth 100pts	200 points	200 points
9) Microscopic Imagery Exam	50 points	50 points
10) Research project	50 points	50 points
11) Joint Case presentation	100 points	100 points

Total: total points earned/1350 X 100 = percentage

Grading Criteria and Conversion:
A = 100-90
B = 89-80
C = 79-70
D = 69-60
F = below 59

Detailed Description of Major Assignments:

Assignment Title or Grade Requirement	Description
Research Project	At the beginning of class, you will be divided up into groups of two and will conduct a microbiology related project for the semester which will incorporate the use of microbiological techniques, media and /or reagents, the scientific process and also present your data at a research symposium.

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: The 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 the student incurs an excused absence with written documentation for the reason, he/she will make arrangements to make-up the missed assignment (s) within two class days upon return to the classroom. The validity of the excuse is the responsibility of the instructor.

Prairie View A&M University requires regular 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.

Absences: While it is understood that you will attend all lectures and laboratories, there are times when you may be absent. Excused absences are those that are due to illness, attendance at university approved functions, civil or military services, or family emergencies. Documentation **must** be provided to me, the instructor prior to the event or immediately upon the student's
return to class. Only verifiable, excused absences will be accepted so that the student may make up his / her work – lecture exams and laboratory assignments.

Evaluation for the Lecture: In the lecture there will be four examinations and a comprehensive final examination, each will be worth 100 points. The examinations will cover those topics covered in class and from the textbook and laboratory exercises. A portion of the exam will be done on a Scantron form. You must provide **your own** #2 pencil and the Scantron form. All missed exams will be free response makeups.

Evaluation for the Laboratory: A laboratory report is due for each laboratory exercise performed. There are a minimum of 10-20 laboratory exercise topics which will have multiple labs included. Each lab report is worth 5 points. In order to receive a grade for your laboratory report, you must be present. There will be two lab practical exams and a comprehensive final exam.

Microbiology **BIOL 3034-P01**
Instructor: Dr. Quincy Moore
Daily 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** he/she comes to class. Dr. Moore reserves the right to change the calendar as he deems fit for the class.

McGraw Connect Assignments are available to start work

Date (week)	Lecture	Lab
August 27-29	**CH 1 and 3** **Microbiology and Bacterial Cell Structure**	Laboratory Safety and Introduction to the Lab Chapter 2 Prescotts Microbiology pg 22-41 Slide observation
Sept. 3-5	**Exam on Ch 1, CH 3 , lab material** **Exam during lecture Sept 5**	Nutrient Broth and Nutrient Agar Preparation Aseptic Transfers and Inoculation Methods Chapter 7 (7.5-7.6)Prescotts Microbiology
Sept. 10-12	**CH 6 / Ch 7** **Viruses and Microbial Growth**	Wet Mount Investigation Chapter 5 Eukaryotic cell structure Section 5.1-5.3 Prescotts Microbiology Practical / Written lab exam
Sept 17-19	**CH 7** **Microbial Growth** **Unique Bacteria**	Microbial Growth Chapter 7 Prescotts Microbiology
Sept 24-26	**Feb 12 Literature Review** **EXAM Ch 6, 7 lab material** **Sept 26** **CH32 Microbial Interactions**	Viruses (Microslide Viewer) Chapter 6 Prescotts Microbiology Projects Literature Review
Oct 1-3	**CH 32 and 35** **Microbial Interactions and Pathogenicity and Infections**	Staining Simple Gram Endospore
Oct 8-10	**CH35**	Control of Microorganisms Chapter 8 and CH 9 Antimicrobial Chemotherapy Prescotts Microbiology Practical / Written exam
Oct 15-17	**Infection Assignment /** **Ch 32/35 Exam March 7**	**Projects**
Oct 22-24	**CH 36 Clinical Microbiology**	**Projects**
Oct 29-31	**Ch 37 Epidemiology and Public Health Microbiology /Solve the**	Bioinformatics Lab Chapetr 18 (18.3) Case Study Approach

	Outbreak	
Nov 5-7	**Epidemiology**	Nitrogen Fixation Lab Chapter 31 pg 690-693 Prescotts Microbiology Microscopic Imagery Exam
Nov 12-14	**Nov 12 Exam Ch36- 37/ Ch 18 material** **CH39 Human Disease Caused by Bacteria**	Unknown Bacteria Lab
Nov19-21	**CH 39 Human Disease Caused by Bacteria**	**Poster**
Nov 21	**Exam Ch 39** **CH 41 Microbiology of Food**	**Presentations/Paper**
December 3	**Lab Final Exam/ Presentations**	
	Final Exams on selected material	

Professional Development will occur during some labs

Current Events will be discussed throughout the entire semester

Authentic Research Experience in PVAMUMicrobiology: Authentic Research Experience in PVAMUMicrobiology 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: ImageJ Application study on Disease progression. The goal of this activity seeks to prepare the next generation of life science majors with a particular emphasis of utilizing computational techniques with biological data sets for careers in biomedical research.

Project 3: 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 4: 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 5: 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 6: 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.

(SAMPLE ABSTRACT (1st Place Poster Presentation Spring 2017) The Forgotten Bacteria

Kadejah Franklin, Yaseen Maleki, Thao Huynh, Jameira Quintanilla and Quincy C. Moore III, Ph.D.
BIOL 3034 Microbiology , Department of Biology, Prairie View A & M University Prairie View, TX 77446

The Men's and Women's restroom exit doors on all four floors of the E.E. O' Banion building were evaluated to find the prevalence of which gender had more bacteria and type of bacteria. This experiment was performed over a total of 5 weeks. A total of 8 sample collection were collected, two for each floor, one from each restroom (Men, women). There were two bacterial isolates collected from all restrooms, based on color most were Staphylococcus and the other were unknown. A total of 4 tests were performed on these bacteria: Gram stain, Catalase, Oxidase, and Temperature effects on microbial growth. The bacteria for both genders saw more growth at temperatures higher than 25 degrees, with the only exception of men's decreased in colony growth at 37 degrees. All were gram positive cocci, except for one, it was gram positive bacilli. 83 % were catalase positive, and 83 % oxidase positive.

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, Campus-Wide 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 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 accomplish 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.

Fall 2019 Calendar

Aug 22 Thursday	**Registration for All Students**
Aug 26 Monday	**First Class Day**
Aug 26 Monday	**Late Registration Fee Begins ($25.00)**
Aug 26 Monday	**Tuition & Fees Payment Due Date**
Aug 26 Monday	**Drop for Non-Payment of Tuition and Fees @ 5:00 p.m.**
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 30 Friday	**Final Day to Register without 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**

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**
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**

ARTICLE PREPARATION GUIDELINES

For the paper

Manuscript title

The title of 25 words or less should be a brief phrase describing the contents of the paper.

Author Information

Complete names and affiliation of all authors, including contact details of corresponding author (Telephone, Fax and E-mail address). Author names are to appear on title page only.

Abstract

The abstract should be informative and completely self-explanatory as described above. Abbreviations should be avoided. The preferable format should accommodate a description of the research background, methods, results and conclusion. Following the abstract, a list of five keywords.

Introduction

The introduction should provide a clear statement of the study, the relevant literature on the research subject and the proposed methodology.

Materials and Methods

The materials and methods section should be a detailed description of the design of the research and methodology. This should include the materials or participants, comparisons, interventions and types of analysis conducted. Only new procedures should be described in detail. Previously published procedures should be cited and important modifications of published procedures should be mentioned briefly.

Results

The results section should provide complete details of the experiment that support the conclusion. The results should be written in the past tense when describing findings in the authors' experiments. Previously published findings should be written in the present tense. Results and discussion may be combined or written separately.

Acknowledgement

This section should include acknowledgment of people, grants, funds, etc.