



# SYLLABUS

## BIOL 3034 P01 General Microbiology Spring 2019

**Instructor:** Quincy C Moore III, Ph.D.  
**Section # and CRN:** Section P01/ 26465 Section P61/ 26475  
**Office Location:** E.E. O'Banion Science Building room 430AF  
**Office Phone:** 936-261-3168  
**Email Address:** qcmoore@pvamu.edu  
**Office Hours:** Tuesday and Thursday 1:00-1:50 (room 430AF)  
 Other times are available by appointment  
**Mode of Instruction:** Face to Face  
**Course Location:** Lecture room 101/ Lab room 308  
**Class Days & Times:** Tuesday and Thursdays Lecture 11-11:50 a.m. / Lab 9-10:50am  
**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 9781259659836  
**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-spring-2019-moore-microbiology>

**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	Critical	Critical Thinking

	microorganisms and higher living forms.	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 Spring 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**

<u>Date (week)</u>	<u>Lecture</u>	<u>Lab</u>
Jan 15-17	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
Jan 22-24	<b>Exam on Ch 1, CH 3</b> , lab material Exam during lecture Jan 24	Nutrient Broth and Nutrient Agar Preparation Aseptic Transfers and Inoculation Methods Chapter 7 (7.5-7.6)Prescotts Microbiology
Jan 29-31	CH 6 / Ch 7 Viruses and Microbial Growth	Wet Mount Investigation Chapter 5 Eukaryotic cell structure Section 5.1-5.3 Prescotts Microbiology <b>Practical / Written lab exam</b>
Feb 5-7	CH 7 Microbial Growth Unique Bacteria	Microbial Growth Chapter 7 Prescotts Microbiology
Feb 12-14	Feb 12 Literature Review <b>EXAM Ch 6, 7 lab material</b> Feb 14  CH32 Microbial Interactions	Viruses (Microslide Viewer) Chapter 6 Prescotts Microbiology Projects Literature Review
Feb 19-21	CH 32 and 35 Microbial Interactions and Pathogenicity and Infections	Staining Simple Gram Endospore
Feb 26-28	CH35	Control of Microorganisms Chapter 8 and CH 9 Antimicrobial Chemotherapy Prescotts Microbiology <b>Practical / Written exam</b>
March 5-7	Infection Assignment /  <b>Ch 32/35 Exam March 7</b>	<b>Projects</b>
March 19-21	CH 36 Clinical Microbiology	<b>Projects</b>
March 26-28	Ch 37 Epidemiology and Public	Bioinformatics Lab Chapetr 18

	<b>Health Microbiology /Solve the Outbreak</b>	(18.3) Case Study Approach
<b>April 2-4</b>	<b>Epidemiology</b>	Nitrogen Fixation Lab Chapter 31 pg 690-693 Prescotts Microbiology <b>Microscopic Imagery Exam</b>
<b>April 9-11</b>	<b>Exam Ch36- 37/ Ch 18 material</b> <b>CH39 Human Disease Caused by Bacteria</b>	Unknown Bacteria Lab
<b>April 16-18</b>	<b>CH 39 Human Disease Caused by Bacteria</b>	<b>Poster</b>
<b>April 23-25</b>	<b>Exam Ch 39</b> <b>CH 41 Microbiology of Food</b>	<b>Poster</b>
<b>April 30</b>	<b>CH 41 Microbiology of Food</b>	Poster Presentations / Paper
	<b>Final Exams on selected material</b>	

## **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 a platform for further investigations. This intersection of Botany and Microbiology will open 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 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.

**Spring 2019 Calendar**

Jan 14

**First Class Day**

Jan 14

**Tuition payment deadline is 5:00 p.m. for all students who registered for the spring semester**

Jan 14 - Jan 16

**Late registration for the spring semester for all students who have not yet registered. To complete registration, students must pay by 5:00 p.m. on Wednesday, February 6.**

Jan 14 - Jan 18

**Add/Drop for all students for the spring semester. Tuition payment for all students who add/drop for spring must pay by 5:00 p.m. on Wednesday, February 6.**

Jan 21

**Dr. Martin Luther King Day (University Closed)**

Jan 22

**Class resumes**

Jan 30

**12th Class Day (Census Date)**

Jan 30

**Last day to drop/withdraw from course(s) without academic record. A financial record will still exist.**

**Jan 31 - Mar 29**

**Withdrawal from course(s) with record (“W”)**

**Feb 06**

**Tuition payment deadline is 5:00 p.m. for all students who late registered and add/drop for spring semester**

**Feb 11**

**20th class day**

**Feb 12 - Apr 30**

**Submit application for Tuition Rebate for spring graduation undergraduate candidates**

**Mar 07 - Mar 09**

**Mid-semester examination**

**Mar 11 - Mar 16**

**Spring Break (University Closed 3/15/2019)**

**Mar 18**

**Class resumes**

**Mar 19**

**60% of Term**

**Mar 19**

**Mid-semester grades due by 11:59 p.m.**

**Mar 27**

**Founders Day/Honors Convocation**

**Mar 27**

**Last day to apply for spring graduation (ceremony participation)**

**Mar 28 - Apr 30**

**Apply for degree conferral only for spring graduation (no ceremony participation or name listed in program)**

**Mar 29**

**Last day for withdrawal from course(s) with record (“W”)**

**Apr 08 - Apr 12**

**Priority registration for continuing students for summer and fall semesters**

## **Priority Registration Schedule**

**Pre-registration for all students for the summer and fall semester**

**Apr 19**

**Good Friday (Student Holiday)**

**Apr 29 - Apr 30**

**Course Review Days (Classes must convene and instructors will prepare students for final exams)**

**Apr 30**

**Last day to withdraw from the university with record**

**Apr 30**

**Last day to apply for degree conferral only for spring graduation (no ceremony participation or name listed in program)**

**Apr 30**

**Last day to submit application for Tuition Rebate for spring graduation undergraduate candidates**

**Apr 30**

**Last Class Day**

**May 01 - May 07**

**Final Examinations**

**May 09**

**Final grades due for graduation candidates by Noon**

**May 11**

**Spring 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.

**Note:** *Authors are should use headings/subheading for sections per the above instructions.*

## **References**

Only published or accepted manuscripts should be included in this list. Meetings abstracts, conference talks, and/or conference papers that have been submitted but not yet accepted should not be cited. All personal communications should be supported by a letter from the relevant authors. References should be listed using APA formatting (see <https://owl.english.purdue.edu/owl/resource/560/01/> for citation examples etc.).

Figure, captions and tables should be within of the manuscript.

## **Examples**

<https://owl.english.purdue.edu/owl/resource/560/01/>

## **Tables**

Tables are to be double-spaced throughout. Each table should be supplied with a heading and a legend.

**Note:** *If necessary the author may be requested to submit the same manuscript in a .doc file and put tables, figures and illustrations on a separate page in order to aid in successful journal formatting.*

## **Figures**

All images must be at intended display size with high resolution. Additionally, image files must be cropped as close to the actual image as possible. Arabic numerals should be used to designate figures and upper case letters for their parts (Figure 1). Include a legend with a title and include sufficient description so that the figure is understandable without reading the text of the manuscript. Information given in legends should not be repeated in the text.