SYLLABUS

BIOL 3034 P02 General Microbiology
Spring 2018

Instructor:	Quincy C Moore, Ph.D.
Section # and CRN:	Section P02/ 24293 Section P62/ 24297
Office Location:	E.E. O'Banion Science Building room 430AF
Office Phone:	936-261-3168
Email Address:	qcmoore@pvamu.edu
Office Hours:	Monday and Wednesday 12 – 12:50pm, 3:00-4:50 pm, Available for appointment at all other times
Mode of Instruction:	Face to Face
Course Location:	Lecture room TBD / Lab room 308
Class Days & Times:	Tuesday and Thursday Lecture 8-8:50 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 978-1-259-28159-4 MHHE Willey et al: ConnectPlus Access Card with LearnSmart for Prescott's Microbiology © 2017 Purchase online price = $92 **Connect is required for class** and Registration dates end February 2. Connect information is listed below. http://connect.mheducation.com/class/q-moore-iii-spring-2018-moore-section-p02
Recommended Materials:	Lab notebook, Blue / black pens, #2 lead pencils, colored pencils, notebook paper, sharpies, 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,	Critical and Analytical	Critical Thinking Communication

	Commercial Foods, Dietetics, Medical Technology, Medicine, Dentistry, Nutrition, Public Health and Biological Research. Give presentation based on research project covering interdisciplinary topics.	Thinking	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 DNA sequencing, Bioinformatics, Microplate Analysis, PCR and Tissue Culture techniques to understand the role of microorganisms in biotechnology, food processing, plant growth, 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 (Disclaimer: This area may change and the new format for grades will be discussed with the class)

Method of Determining Final Course Grade (the points are subject to change based on Dr. Moore's evaluation of the class performances and the opportunity to 100% complete the evaluations)

Course Grade Requirement	Value	Total
1) 2 Practical Lab Exams/Assessment	50 points each	100 points
2) 2 written Lab exams	50 points each	100 points
3) Comprehensive final lab presentation	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	10 points	100 points
7) 10 Lab modules	10 points	100 points
8) Comprehensive Final Exam	100 points	100 points
9) Criminal Case Presentation (requires active participation and results)	100 points	100 points
10) Research project	100 points	100 points

Total: total points earned/1300 X 100 = percentage (Total points may vary)

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 or more**

	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.
Class Project	**Can you serve as an expert witness on a real case?**

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. No excuse = a grade of "0" recorded

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.**

Evaluation for the Laboratory: A laboratory report is due for each laboratory exercise performed. There are 10 laboratory exercises which will have multiple labs included. Each lab report is worth 100 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** CRN# 24271
Instructor: Dr. Quincy Moore
Daily Schedule for Fall 2017

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	Lecture and Lab Topics	Lab
January	Welcome to the World of Microbiology	
17	Chapter 1 Microbiology	Pre-Test/ Lab safety/ Microscopic Observation (Ch 2) Tools for Research / Rhizobium
22	Chapter 3- Bacterial Cell Structure	Parasites/ Citi Training
24	Chapter 3- Bacterial Cell Structure	Protozoans/Fungi
29	Chapter 5.1-5.2 Eukaryotic Cell Structure	Mycology /Clickers
31	Exam 1 Chapters 1, 3, 5	Field Investigation/Sample Collection/Staining
Feb 5	Chapter 6 Viruses	Modeling Lab
7	Chapter 6 Viruses/ Chapter 7 Microbial Growth	Streak Plates/Temperature Studies/Special Media
12	Chapter 7 Microbial Growth	Lab Exam/ Streak Plates/Temperature Studies/Special Media
14	Chapter 8 Control of Microorganisms	Control of Microorganisms
19	Chapter 9 Antimicrobial Chemotherapy	Control of Microorganisms
21	Exam Chapters 6-9	Biosafety Cabinet/ Tissue Culture
26	Chapter 18 Microbial Genomics Section 18.1-18.4	Bioinformatics/ Current Medical Approaches to Disease
28	Chapter 32 Microbial Interactions	
Mar 5	Chapter 32 Microbial Interactions	Projects
Mar 7	Exam Chapter 18, 32, 33	Projects
19 **(midterm week)**	Chapter 33 Chapter Innate Host Resistance	Projects
21	Chapter 35 Pathogenicity and Infections	Projects
26	Chapter 35 Pathogenicity and Infections	Mid-term report of project Lab Exam
28 Founder's Day	Chapter 36 Clinical Microbiology	Connect Assignment
April		
2	Web based Assignment	Project Group Work on Poster
4	Chapter 37 Epidemiology and Public	Literature Review / Outbreak

	Health Microbiology	Activity
9	Chapter 37 Epidemiology and Public Health Microbiology	Poster Complete Rough Draft Due
11	Current Events in Microbiology Topics	Final Poster Due
16	Chapter 39Human Disease Caused by Bacteria	Literature Review
18	Exam Chapter 35, 36, 37	Exam Chapter 35, 36, 37
23	Chapter 39Human Disease Caused by Bacteria	Chapter 39Human Disease Caused by Bacteria
25	Final Lab Exam (Written and Practical)	
April 30	Review Day	MicroTalks Presentation (Public)
May 2	Common Exam with BIOL 3034 P01 and P02	6:30 pm-8:30pm

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.

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

Jan 15, 2018	Dr. Martin Luther King Day (University Closed)	Jan 31, 2018	Late Deadline for Graduating Undergraduates to Submit Application for Tuition Rebate for Spring 2018	Mar 16, 2018	SPRING BREAK (University Closed)
Jan 16, 2018	First Class Day			Mar 19, 2018	Classes Resume
Jan 16 - Jan 20, 2018	Late Registration and Drop/Add Period	Jan 31, 2018	Late Deadline to Apply for Spring 2018 Graduation	Mar 20, 2018	Mid-Semester Grades Due
Jan 20, 2018	Student Web Registration Access Closes at midnight	Feb 01 - Apr 02, 2018	Withdrawal from Courses with Academic Record ("W") Period – Spring 2018	Mar 23, 2018	60% of Term – Spring 2018
Jan 25, 2018	General Student Assembly – All Students to Attend	Feb 12, 2018	20th Class Day	Mar 28, 2018	Founders Day/Honors Convocation
Jan 31, 2018	12th Class Day (Census Date)	Mar 08 - Mar 10, 2018	Mid-Semester Examination Period	Mar 30 - Mar 31, 2018	Good Friday (Student Holiday)
Jan 31, 2018	Last Day to Withdraw from Course(s) without Academic Record – Spring 2018	Mar 12 - Mar 17, 2018	SPRING BREAK	Apr 10 - May 23, 2018	Priority Registration Period Fall 2018 semester
				Apr 10 - May 23, 2018	Priority Registration Period Summer 2018 semester

Apr 13, 2018	Deadline to Apply for Summer 2018 Graduation
Apr 30 - May 01, 2018	Course Review Days (Classes must convene and instructors will prepare students for final exams)
May 01, 2018	Last Class Day – Spring 2018
May 01, 2018	Last Day to Withdraw from the University (from all courses)
May 02 - May 08, 2018	Final Examination Period
Wednesday through Tuesday	