**Instructor Information**

**Instructor:** Ben Rains  
**Office:** Main Campus, SCIB building, Room 118  
**Mailbox:** Main Campus, SCIB building, Room 124  
**Hours:** Monday 1-2 PM  
Tuesday 1-2 PM  
Wednesday 3-4PM  
Thursday 1-2 PM  
Friday 10-11AM  
**Phone:** (501)812-2268 (Office); (501)812-2269 (Math & Science Department)  
**Email:** brains@uaptc.edu

*All emails and telephone calls will receive a response within two business days.*

**Chair:** Thomas Russell  
**Phone:** (501)812-2705  
**Email:** trussell@uaptc.edu

**Dean:** Marico Bryant Howe  
**Phone:** (501)812-2342  
**Email:** mbryanthowe@uaptc.edu

*If your emails and telephone calls do not receive a response within two business days, the appropriate chain of command is above.*

**Course Information**

This course meets for a live class and lab every Tuesday and Thursday.  
**MW class is 8AM to 9:15AM, Science Building (SCIB) 111**  
**Lab, MW, from 920-1040AM, room Administration building 128A.**

**Catalog Description**

This course is an introductory course in microbiological concepts, including the study of bacteria, viruses, fungi, and protozoa as they affect the human body. This course is designed for majors in health professions programs. See prerequisite details below. 3 lecture hours, 3 lab hours. (4 credit hours/special course fee)

Prerequisite: (must meet one of the following requirements)  
• BIOL 1401 or BIOL 1402 with a grade of “C” or better  
• Completion of high school AP/IB Biology with a grade of “B” or better, completion/testing out of all zero (0) level courses, and permission of the department chair

**Course Materials**


electronic versions:

Optional: Handout materials may be provided by the instructor as needed.

Mission Statement

University of Arkansas – Pulaski Technical College provides access to high-quality education that promotes student learning and enables individuals to develop to their fullest potential.

Institutional Learning Outcomes and General Education

UA-PTC supports a college-wide institutional learning assessment program which concerns effective instructional methods and promotes student learning achievement by assessing:

1. Communication
2. Critical Thinking
3. Cultural Awareness
4. Information Literacy
5. Professionalism
6. Quantitative Literacy
7. Technology Literacy

For more information, please consult the following website: https://uaptc.edu/sla

Biology Department / Discipline or Program Learning Outcomes

The mission of Biology discipline at UA-PTC is to provide high-quality education to students through developing the fundamental skills and knowledge to make informed decisions as individuals and members of society. We encourage critical thinking and life-long learning about the unity, diversity and interrelatedness of living things.

The Biology discipline, consistent with the College’s mission and the Division’s objectives, encourages the success of its students in all technical fields and academic disciplines by:

1. Demonstrating critical and independent thinking through biological investigation
2. Demonstrating professionalism in communication and collaboration
3. Analyzing the influence of scientific thought on individuals and society
4. Demonstrating proper use of biological instrumentation and laboratory techniques
Microbiology Student Learning / Course Outcomes

**ACTS General Description:**
Introductory course in microbiology. Includes microbiological concepts including the study of bacteria, viruses, fungi, and protozoa as they affect the human body. Designed for majors in health professions programs. Lab required.

**ACTS Expected Student Learning Outcomes:**
The student will explain, describe, discuss, recognize, and/or apply knowledge and understanding of the following:

- History of microbiology
- Biological and chemical concepts, including metabolism, as applied to microorganisms
- Basic classification, characteristics and behavior of microorganisms
- Host-microbe interactions that result in infection
- Fundamentals of immunology
- Principles of asepsis, sterilization, and disinfection
- Principles of epidemiology as they apply to the effect of microorganisms on the human population
- General methods for the prevention and control of infectious disease transmission
- Microbial growth
- Microbial genetics

The student will explain, describe, discuss, recognize, and/or apply knowledge and understanding of the following lab activities:

- Use of microscope
- Preparation of stains
- General laboratory techniques, including but not limited to aseptic technique, streak plate, and identification methods

**UAPTC Microbiology Course Learning Outcomes**
By the end of the course, the students will be able to:

1. Describe the diversity of microorganisms, bacterial cell structure and function, microbial growth and metabolism, and the ways to control their growth by physical and chemical means.

2. Explain the basic genetic systems of bacteria, bacteriophage, and plasmids and the role in biotechnology and medicine.

3. Examine the development of public health and how medical scientific principles are applied for prevention and control of known and new diseases.

4. Demonstrate practical skills in fundamental microbiological techniques.
Chapters that will be covered: chapters 1 to 18 and 20.

Policies

Report a Complaint or Concern

UA-PTC takes very seriously complaints and concerns regarding the institution. Most complaints or concerns of a specific nature should be initiated and resolved at the campus level through normal college processes whenever possible. UA - Pulaski Technical College receives and resolves complaints using a variety of methods. To report a complaint or concern, please follow the link below.

https://www.uaptc.edu/report-a-concern-complaint

UA-PTC Attendance Policy

Education at UA-PTC requires students’ active involvement in the learning process. Thus, students are expected to attend all classes and actively engage in all learning assignments and/or opportunities provided in their classes. Class attendance should be treated as mandatory by all students as attendance will be taken by all instructors during the first two weeks of class. Additionally, a written policy on student attendance that is tied to course objectives and included in a course syllabus will be provided for each course by instructors.

Departmental Attendance Policy

Attendance will be taken daily during the first 2 weeks of class for reporting and college purposes. Please also see blackboard in order to both create an attendance artifact as well as verify your ability to use blackboard.

You will be given a failing grade (F) for the course if you miss more than 25% of lab sessions regardless of your grade. You will be given a failing grade (F) for the course if you miss more than 25% of lecture sessions regardless of your grade.

Appropriate corrective measures will be taken towards any Disruptive and Disrespectful behavior.

Attendance is taken via use of a sign in sheet in both class and lab. Arrival after 10 minutes is considered tardy. In the event tardiness is unavoidable, please come to class but be respectful of your classmates when you enter the classroom or lab.

Tardiness: Avoid tardiness. You will not be accommodated for any class activity because of tardiness. Any action(s) towards tardiness is/are at the discretion of the Instructor.

Agencies granting financial assistance may be notified of the violation of the attendance policy by students receiving financial aid.
Course Policies

The UA-PTC Catalog rules and regulations will be enforced in this course at all times.

Please consult the following website for more information: https://www.uaptc.edu/catalog

Professional behavior is required. Punctual attendance and intelligent participation are expected. Particulars as determined by the instructor are detailed in the paragraph below.

Appropriate behavior is expected for all communications, including any notes, email messages, or telephone conversations. Some guidelines for communication are included in this syllabus to help you.

The Pulaski Technical College Student Handbook rules and regulations will be enforced in this class at all times

Student Behavior:

Attendance is taken daily, and a sign in roll sheet is used. Arrival after 10 minutes of the scheduled start time for class or lab will be considered absent. Please ensure that you are signed in. If you miss a class, contact me as soon as possible. I want to make sure that you have all materials and do not miss things.

Sometimes things such as jury duty, court appearances, active duty military service, major life threatening illnesses requiring hospitalization and corresponding physician orders occur. If this happens please get in contact with me and we will figure out a path forward and what options exist.

UA-PTC no longer issues a WX grade, which is where a student was dropped for administrative reasons. It is the student’s responsibility to initiate and complete proper paperwork for any withdrawals.

Snacks and food can NOT be in the lab. In class I don’t mind although please be courteous to your classmates and don’t bring in things that make noise.

Cell phones, tablets and devices. Please turn them off or to silent. It is inappropriate to enter and exit a class or lab multiple times to address telephone calls. If you are on call or have a situation where you may have to take calls, please let me know and sit closer to the door to disturb fewer people.

CELL PHONES, TABLETS AND OTHER DEVICES ARE NOT ALLOWED DURING EXAMS. THEY ARE TO BE COMPLETELY OUT OF SIGHT AND IN YOUR PURSE, BACKPACK OR WHEREVER YOU STORE IT.

Honor Code – Each student is expected to do his or her own work. In particular, copying work from other students, from the internet or third party sources, as well as cheating on exams or quizzes will not be tolerated. Plagiarism is covered in the college catalog.

The lowest test score exclusive of the final exam will be dropped. I know many of you are juggling difficult schedules, and sometimes traffic, weather, and other things interfere with
transportation. I will allow one make up exam, although it may be a different format and exam from the test taken by the rest of the class. I have to have grades posted within 1 week of the item, so that is the absolute deadline.

In the event of weather or other things that close the college campus, any due date will be moved to the next class day.

Communications – email is the preferred method of communication, although I do check my office phone. When you email, please let me know your subject, and day and time.

Blackboard is the system we use for grades and this class uses it as a supplement to our class. The majority of grades used in this class will be in a proctored situation or laboratory, there will be a few things in blackboard, such as quizzes or smaller assignments. Additionally, blackboard is our class bulletin board and announcements will be posted there. Please check it before coming to class.

Lab Policies:

A. No food, gum, or drinks are allowed in the lab.
B. Students are not to work on any assignments or other material other than the day’s lab topic.
C. There will be no lab make-up as considerable preparation time is required by the instructor and cannot be redone.
D. During each lab period you will be required to make notes of what is covered, record results, describe materials used, and note any conclusions or principles demonstrated.
E. No children of visitors are allowed in the lab at any time for any reason!

Grading Policy

Letter grades will be based on the following scale:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 to 100%</td>
<td>A</td>
</tr>
<tr>
<td>80 to 89%</td>
<td>B</td>
</tr>
<tr>
<td>70 to 79%</td>
<td>C</td>
</tr>
<tr>
<td>60 to 69%</td>
<td>D</td>
</tr>
<tr>
<td>0 to 59%</td>
<td>F</td>
</tr>
</tbody>
</table>

Points Distribution:

<table>
<thead>
<tr>
<th>Tested/Graded Activities*</th>
<th>Points Allotment</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Lecture Exams/100 pts Each</td>
<td>400</td>
</tr>
<tr>
<td>1 Lecture Final/Comprehensive</td>
<td>200</td>
</tr>
<tr>
<td>Quizzes (blackboard)</td>
<td>200</td>
</tr>
</tbody>
</table>
Information Literacy project  100
Laboratory work and hand ins  100
1 Lab Final Test (100pts) or 2 Lab Tests (50pts Each)  100
Microscope Assessment (Quiz + Practical)  100

1200

*Results and grades of all tested activities will be posted within a week of the activity

*There will be a total of three (3) 50 point lab exams given in this course. The lowest lab exam score will be dropped.

*Instructors have one week to provide feedback and post grades for all assignments unless otherwise noted by a departmental policy that has been approved by the Dean of the School. Per Dean approval, instructors of the Physical and Natural Sciences department will have two weeks to provide feedback and post grades for research papers and other hand-graded work.

Quizzes and exams can be multiple choice, open ended questions, labeling, or some mixture of. Be aware that some smaller assignments may be based in blackboard.

Some material may be covered in a take home format. These assignments have a fixed due date and will not be accepted late.

Due dates are important. UA-PTC wants students to be aware of grades in a timely manner. To assist in this, due dates are selected to allow for timely processing and return.

**Academic Integrity**

It is expected that all students who attend UA-PTC conduct themselves in a manner appropriate for the college experience. Academic integrity is a vital component of collegiate behavior. The UA-PTC catalog states, “The gaining of knowledge and the practice of honesty go hand-in-hand.”

The catalog also states, “The responsibility and authority of initiating discipline arising from violations of the rules against dishonesty during the process of the course are vested in the instructor of that course.”

The complete Academic Integrity Policy is in the UA-PTC code of conduct.

**Accommodation Policy**

Services for Students with Disabilities: UA-PTC is committed to fulfilling all federal requirements as stated in the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the American with Disabilities Amendments Act (ADAAA) of 2008. Accommodations are available
to students who have documented disabilities. Students who request accommodations must register with the Disability Services Office (Main Campus: 501-812-2738 or South Campus: 501-812-2862) and must provide current and relevant documentation.

Students requesting accommodations should inform the instructor at the beginning of the course or as soon as accommodations are approved. It is the student's responsibility to provide their Accommodation Letter to the instructor. Accommodations are not retroactive and will only be provided once your instructor receives the Accommodation Letter.

Student Code of Conduct

All students are expected to abide by the UA-PTC Student Code of Conduct. For the full Student Code of Conduct, access the most current version of the UA-PTC Academic Catalog.
http://uaptc.azurewebsites.net/docs/default-source/course-catalog/2017-18-academic-catalog.pdf?sfvrsn=a08a3038_2

Sexual Misconduct

No person at Pulaski Technical College will, on the basis of gender, be excluded from participation in, be denied benefits of, or be subjected to sex discrimination, sexual harassment or sexual misconduct under any education program or activity. All college administrative policies and procedures regarding sex discrimination, sexual harassment, and sexual misconduct are in compliance with Title IX. Students who feel they are victims of sexual misconduct should contact the UA-PTC Title IX Deputy Coordinator for Students:

Michelle Anderson, Director of Student Life and Leadership
Campus Center Building Room 216
501-812-2756
manderson@uaptc.edu

Course Evaluations

Students may be asked to evaluate their instructor and course near the end of the semester. These student evaluations are very important to the improvement in the quality of instruction and course materials. All results are anonymous and shared with the faculty only after the semester is over and grades have been posted.

Information Literacy

UA-PTC is committed to the Information Literacy Competency Standards for Higher Education as established by the Association of College and Research Libraries and endorsed by the National Forum on Information Literacy. Therefore, all courses will incorporate an information literacy component so that, by graduation, all students will be able to recognize the need for information, then locate, evaluate, synthesize, and communicate information in an ethical manner. Information literacy encompasses critical thinking, research, media, technology, health, business, and visual literacy skills to produce lifelong learners who can make informed decisions in the workplace and in their personal lives.
## Tentative Course Schedule

<table>
<thead>
<tr>
<th>Week of:</th>
<th>CHAPTERS COVERED</th>
<th>LABS (Graded)</th>
<th>Assessments (Graded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. (8/15-8/19)</td>
<td>Chapter 1: The Microbial World and You</td>
<td>Lab Exercise Discussion</td>
<td>Chapter 1 quiz and reading</td>
</tr>
<tr>
<td>2. (8/20-8/26)</td>
<td>Chapter 1: The Microbial World and You, Chapter 2: Chemical Principles</td>
<td>Lab #1 Transport experiment and Microscope Prelab: Microscope</td>
<td>Chapter 1 quiz and reading Chapter 2 quiz and reading</td>
</tr>
<tr>
<td>4. (9/3-9/9)</td>
<td>Chapter 4: Prokaryotic and Eukaryotic Cells</td>
<td>Lab Exam 1</td>
<td>Chapter 4 quiz and reading</td>
</tr>
<tr>
<td>5. (9/10-9/16)</td>
<td>Chapter 5: Metabolism</td>
<td>Lab #4 Selective and Differential Media Prelab: Special media for isolating bacteria</td>
<td>Chapter 5 quiz and reading Exam #1 (Chapters 1-5)</td>
</tr>
<tr>
<td>6. (9/17-9/23)</td>
<td>Chapter 6: Microbial Growth</td>
<td>Lab #5 Carbohydrate Metabolism Prelab: Carbohydrate Metabolism</td>
<td>Chapter 6 quiz and reading</td>
</tr>
<tr>
<td>7. (9/24-9/30)</td>
<td>Chapter 7: The control of Microbial Growth</td>
<td>Lab #6 Fermentation Prelab: Fermentation</td>
<td>Chapter 7 quiz and reading</td>
</tr>
<tr>
<td>8. (10/1-10/7)</td>
<td>Chapter 8: Microbial Genetics, Chapter 9: Biotechnology and DNA Technology</td>
<td>Lab #7 Protein Metabolism Pre-lab: Protein Metabolism</td>
<td>Chapter 8 quiz and reading Chapter 9 quiz and reading</td>
</tr>
<tr>
<td>9. (10/8-10/14)</td>
<td>Chapter 10: Classification of Microorganisms</td>
<td>Microscope Assessment</td>
<td>Chapter 10 quiz and reading Exam #2 (Chapters 6-10)</td>
</tr>
<tr>
<td>10. (10/15-10/21)</td>
<td>Chapter 11: The Prokaryotes</td>
<td>Lab #8 Respiration Prelab: Respiration</td>
<td>Chapter 11 quiz and reading</td>
</tr>
<tr>
<td>11. (10/22-10/28)</td>
<td>Chapter 12: The Eukaryotes, Chapter 13: Viruses, Viroids, and Prions</td>
<td>Lab Exam 2</td>
<td>Chapter 12 quiz and reading Chapter 13 quiz and reading</td>
</tr>
<tr>
<td>12. (10/29-11/4)</td>
<td>Chapter 14: Principle of Disease and Epidemiology</td>
<td>Lab #9 Multi-test medium and Motility</td>
<td>Chapter 14 quiz and reading</td>
</tr>
<tr>
<td>15. (11/26-12/2)</td>
<td>Chapter 18: Practical Applications of Immunology, Chapter 19: Disorders Associated with the Immune system</td>
<td>Lab #12 Immunological Methods Prelab: Immunological Methods</td>
<td>Chapter 18 quiz and reading Chapter 19 quiz and reading</td>
</tr>
<tr>
<td>16. (12/3-12/9)</td>
<td>Chapter 20: Antimicrobial Drugs</td>
<td>Lab Exam 3</td>
<td>Chapter 20 quiz and reading Exam #4 (Chapters 16-20)</td>
</tr>
<tr>
<td>17. (12/8-12/11)</td>
<td>Cumulative Final! Please see your specific time.</td>
<td>Cumulative Final! Please see your specific time.</td>
<td>Cumulative Final! Please see your specific time.</td>
</tr>
</tbody>
</table>

**Final Exam Schedule:** The final schedule is posted on the UA-PTC Website.

MW 8AM class is
Disclaimer: This schedule is a guide for the semester. The instructor reserves the right to amend the schedule as necessary.
Course Agreement Form

Read, complete, and return to instructor:

I have read the course syllabus for Ben Rains’ class at Pulaski Technical College, and I understand its content. I also understand the rules for the class, and I will follow and abide by these rules, including those relating to attendance, assignments, grading criteria, plagiarism, and behavior.

Semester

Date

Print name

Signature

UA-UA-PTC Email address

Telephone