Instructor Information

Instructor: Dr. Mohamed Nawaz  
Office: National Center for Toxicological Research/USFDA, Jefferson, AR 72079  
Mailbox:  
Hours: After Class on Monday, Wednesday and Saturday  
Phone: 501 712 6268 (cell). Please don’t call me after 9:00 PM.  
Email: mnawaz023@gmail.com or mohamed.nawaz@fda.hhs.gov

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

Chair: Mr. Thomas Russell  
Dean: Dr. Marico Bryant-Howe  

Course Information

4 Credit Hours (3 lecture hours/3 laboratory hours per week)

An introductory course in Microbiology with emphasis on the study of viruses, bacteria, protozoans, and helminths causing diseases in the human body, their classification and the different antibiotics used to prevent the disease. The course is designed for students who want to enter nursing or other medical fields.

Prerequisite: Biol 1401

Catalog Description:

I. Course Materials: Course Resources

Videotapes are available in the Learning Resource Center.

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

Student Learning/Course Outcomes

Upon completion of the course the student should be able to:

1. Compare and contrast prokaryotic and eukaryotic cells.
2. Successfully culture prokaryotes using liquid and solid media
3. Perform and evaluate staining techniques required in the identification of microbes.
4. Successfully obtain axenic cultures from mixed culture of bacteria
5. Be able to list differences between viruses, bacteria and fungi
6. List the methods to culture these microbes
7. Have a good knowledge of the taxonomy of these three microbes.
8. List major types of nosocomial infections and list common infectious agents
9. Define the types of immunization and relate immunization techniques to immunological theories
10. Compare and contrast nonspecific immunity to specific immunity
11. List the different types of antibiotics and their uses
12. Differences between broad spectrum and narrow spectrum antibiotics
13. List the mode of action of all antibiotics
14. List and discuss how bacteria become resistant to antibiotics
15. List the steps to avoid bacterial resistance to antibiotics
16. Discuss the epidemiological techniques used in state health departments
17. Compare and contrast epidemics, pandemics, endemics diseases.
18. Define and give examples of nationally and locally notifiable diseases
19. List the symptoms of at least 3 diseases of dental, skin, respiratory system and urogenitals
20. List the microorganisms that cause the above stated infections
21. List the preventive steps to control infection caused by these microbes
22. Perform methodologies to determine the resistant/sensitive profile of bacteria to various antimicrobial agents
23. Perform methodologies to quantify bacteria populations from various environments.

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 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 at the start of each class. Students must report to me if you came late to get credit for attending the class. Regular attendance improves student success. Please attend classes regularly and promptly.

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:

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.

Please be prompt in attending classes. Please avoid disturbing your fellow students while entering the class or leaving. Please raise your hands and then ask questions if you don’t understand the material discussed. I will always be available after the lecture to answer your questions or clear any of your doubts regarding the lecture.

Grading Policy

Letter grades will be based on the following scale:

- 90 to 100% A
- 80 to 89% B
- 70 to 79% C
- 60 to 69% D
- 0 to 59% F

We will have a total of 6 tests (5 lecture test and one/two lab tests). The lecture tests will be administered after every 3 lectures. The lecture test will be for a total of 100 points. All lecture tests will have a bonus of 10 points. The lecture test will contain 70-80% objective type questions (choose the correct answer) and 20-30% short answers (2-3 sentence answers).
Graded answer papers along with the respective scores will be delivered only to the student. Scores will not be revealed over the mass media (Facebook, Instagram, phone or email). If there are two lab tests, each test will be for 50 points.

Students who are unable to take the test on the "set date", must make prior arrangement with the instructor. The prior arrangement should be before the "set date". Make up tests will not be given if no prior arrangements are made. Students can only do one make up test during the semester. Only medical emergencies along with your physicians notifications on your medical conditions will allow you to avail a "make up test". All electronic devices should be "turned off" while taking the test. Please avoid talking or singing during the test.

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 catalogue states, "The gaining of knowledge and the practice of honesty go hand-in-hand."

The catalogue 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.

Schedule of Classes and Chapters:
Week | Chapter #
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1 | 1, 2, 5

This chapter involves the different kinds of microbes, their importance and the historical perspective of Microbiology. These chapters will also lay the foundation on the biochemistry of the different macromolecules present in these microbes.

2 | 5, 6

In these chapters we will learn how to grow bacteria, stages of bacterial growth and the physical and chemical factors that influence bacteria growth and the kinds of macromolecules.

3 | 3, 4

Differences between prokaryotes and eukaryotes at the cellular and molecular level and study the different microscopes used in the study of microorganisms. We will also study the preparation of different stains used in Microbiology.

Test 1 (100 points).

Week

4 | 13

We will study the different types of viruses, their parts and functions, replication and culturing of viruses. We will also study the different virus like particles and onco viruses.

5 | 8

We will study the genetics of microorganisms, DNA replication, protein biosynthesis, types of mutations, detection of mutations and DNA repair.

6 | 9, 10
Introduction to Biotechnology, different methods used in biotechnology, tools of biotechnology and products of biotechnology. We will also study the different methods in classifying and identifying bacteria.

Test 2 (100 points)

7

Sterilization and disinfections: We will study the different terms used in this chapter, factors that influence killing of microbes, different modes of action of disinfectants and physical and chemical disinfectants.

8

20

Antibiotics: Characteristics of antibiotics, types of antibiotic resistance, genetics of antibiotics resistance and side effects of antibiotics. We will also study antifungal, antiviral and antiparasitic drugs.

9

12, 16, 17

Process of infection, Types of infectious diseases, Disease development, factors associated with outbreak of infectious diseases, epidemiology and nosocomial infections.

Test 3 (100 points)

10-11

19, 25-26

Diseases of the urinary tract and digestive tracts

12

21

13

Test 4 (100 points)

Test 5 (Finals) 100 points.
Final Exam Schedule: Final examination will be administered as per the colleges guidelines.

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 (Dr. Mohamed Nawaz's Biol 2401) 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-UAPTC Email address

Telephone