VALENCIACOLLEGE

MCB2010C, Microbiology
Fall 2023

INSTRUCTOR INFORMATION

Instructor: Robyn Falcone, Ph.D.
E-Mail: rfalcone@valenciacollege.edu

Virtual Office Hours:

- I answer emails quickly between 8am – 6pm Monday through Friday. Weekend emails may take 24 hours or more to be answered.

Course: Microbiology (MCB 2010C) **CRN:** 17424 **Credit Hours:** 4

Class meeting days, hours, and location: This is a Mixed-Mode class

Lecture - Virtual (Canvas LMS)

Laboratory – meets on Thursday evenings at 7:00 pm-9:45 pm in (West Campus)
Lab Room AHS-320

Prerequisite: Minimum grade of C in BSC 1010C or BSC 2093C.

Course Description: This lecture/lab course is designed for Health Science majors. Survey of microbial forms with emphasis on bacteria and viruses: morphology, physiology, genetic mechanisms, and control of microorganisms. Pathogenic processes and microbes discussed in detail.

REQUIRED LECTURE AND LABORATORY MATERIALS

1. **Microbiology: A Systems Approach** (e-book) w/ Connect Digital Access. Author: Cowan. Publisher: McGraw-Hill. Edition: 7th. ISBN: **9781264505647 and**
2. **Microbiology Lab Manual** 4th Edition. Author: Saad and Persaud, Morton, Englewood, CO. ISBN 978-1-64043-288-8
   - **To begin class effectively, purchase the materials PRIOR to class starting to allow the time necessary for shipping.**
   - **Students can purchase the course materials here:** https://www.valenciabookstores.com/buy_textbooks.asp
   - **Please Note:** You are purchasing an online CONNECT access code only for the textbook. The code will give you access to the e-book version of the textbook, AND the virtual materials needed for the lecture assignments in the course. You can also wait until the first day of class and purchase it through the Canvas Microbiology course:
   - **If you are using financial aid** and it is not in yet, you can access a 2-week free trial until financial aid arrives and then you pay for the codes.

3. The **Microbiology Lab Manual** is an actual spiral bound lab manual you will bring to lab.
4. **A reliable and fast internet connection.**
5. **Computer or equivalent device with minimum technological requirements to run Canvas LMS.**
6. **Webcam and microphone** required to proctor the 5 Unit Exams and the Final Exam, along with **Google Chrome** as your browser. See the TESTING POLICY below.
7. **Narrated PowerPoint slideshows** comprising the course lecture notes are also available on Canvas for use by students.

Important Dates:

- Drop/Refund Deadline: August 29, 2023
- No Show Reporting Period: Aug 20 – Sept 8, 2023
- Withdrawal Deadline: October 27, 2023
- Holidays (No Classes):
  - Labor Day: September 4, 2023
  - Veteran's Day: November 10, 2023
  - Thanksgiving Week: November 22-26, 2023
- Term Ends: December 10, 2023
- Final Grades Viewable in ATLAS: December 12, 2023
- Commencement December 12, 2023

Course Learning Outcomes:

1. Students will be able to compare the characteristics of bacteria, fungi, protozoa, helminths, viruses, and prions, and describe the unique characteristics of each.
2. Students will demonstrate proficiency in the use of microscopy and staining procedures that aid in the identification of bacteria.
3. Students will be able to compare bacterial and eukaryotic genome structure and replication, transcription, and translation strategies.
4. Students will be able to explain viral structure, multiplication, spread, and control.
5. Students will be able to explain basic microbial metabolism, the products of microbial metabolism, and growth conditions required to encourage microbial growth in a laboratory.
6. Students will be able to describe gene regulation and the effects of mutations on the genotype and phenotype of bacterial and eukaryotic organisms.
7. Students will be able to compare and give examples of horizontal gene transfer through conjugation, transformation, and transduction.
8. Students will apply principles of molecular genetics to model basic genetic engineering techniques.
9. Students will be able to discuss how various chemical, physical, mechanical, and biological means control microbes to protect individuals who are at risk for infection.
10. Students will be able to identify the mechanism of action of commonly used antimicrobial drugs and the concerns associated with the development of drug-resistant strains.
11. Students will be able to describe the components of the nonspecific and specific immune system and give examples of how each component protects the human body from invading pathogens.
12. Students will be able to describe how human factors affect the human microbiome and alter susceptibility to infection and disease.
13. Students will be able to identify the role of virulence factors in causing disease.
14. Students will be able to illustrate how vaccines promote immunological memory and herd immunity against vaccine-preventable diseases.
15. Students will be able to demonstrate proper aseptic techniques to reduce infectious disease transmission.
16. Students will be able to apply universal precaution strategies that are important in limiting pathogen spread and reducing healthcare-associated infections.
17. Students will be able to explain the steps taken by public health institutions to manage disease spread and limit potential outbreaks.

18. Students will demonstrate the use of proper personal protective equipment (PPE) and procedures for handling infectious materials and biological waste.
19. Students will be able to identify biosafety measures that should be put in place to protect patients, healthcare providers, and themselves.
20. Students will be able to identify bacterial pathogens using appropriate bacterial staining methods, culture media, and biochemical tests.
21. Students will be able to describe techniques that are used to identify and quantify pathogens for reporting purposes.
22. Students will be able to describe how infectious agents are identified in the diagnosis of disease and relate that information to the appropriate organ system.

Valencia Community College Core Competencies

The faculty of Valencia Community College has identified four core competencies that define the learning outcomes for a successful Valencia graduate. These competencies are at the heart of the Valencia experience and provide the context for learning and assessment at Valencia Community College. You will be given opportunities to develop and practice these competencies in this class.

The Four Core Competencies are:

1. **Think** – think clearly, critically and creatively. Analyze, synthesize, integrate and evaluate in the many domains of human inquiry.
2. **Value** – make reasoned judgments and responsible commitments.
3. **Communicate** – communicate with different audiences using varied means**.**
4. **Act** – act purposefully, effectively and responsibly.

CLASS POLICIES

EXPECTATIONS AND GOALS

Health science careers seek students who earn a "B" or better in their science courses as a measure of their future success. In order to efficiently succeed, create a weekly working plan: Students that view lectures, listen and participate, turn in the CYU questions, and complete the reading and labs have the best test grades and highest grades in my courses.

I will post Announcements frequently in the course, weekly reminders and looking ahead at what is due. Please have your Canvas Announcement notifications on to stay up to date on the news.

To improve your study skills, time management and student success and goal setting at Valencia, I encourage you to look into the Skillshops that Valencia provides to help you succeed. Link to Skillshops here.

I also have a Study Skills module that you can use to develop better study techniques, found at the top of the Modules section.

FORMAT OF ONLINE LECTURE AND LABORATORY

This course uses narrated lectures, textbook reading, and Connect Learn Smart adaptive learning while you read. The laboratories will be in person this term to enrich your understanding of Microbiology concepts. Due to having a mixed-mode course with the lecture and reading online, I have created a schedule for Lecture assignments and Lab assignments. You will be most successful if you are diligent in keeping up with the schedule by working this class almost daily. **Lecture assignments are due Saturday nights, and Lab assignments are due Sunday nights**. However, assignments are open during the week, days before the deadline, and I expect you to have your work completed prior to your weekend.

All the assessments and evaluations will be in the form of CYU questions, Canvas quizzes for Lecture and Labs, Unit Exams and a cumulative Final Exam. Some assessments are timed and require a timely submission, or you risk a 0%. Some assessments will allow late work and will be penalized 10% each day. Below is a format that the most successful students use during their week:

LECTURE ASSIGNMENTS (All Due by Saturday nights):

1. **Weekly Lectures:** Found in the Modules section of Canvas, the lectures are in PowerPoint. I am narrating the course material as if we were still meeting in class. If you do not have PowerPoint installed on your computer, you may download it for free from Valencia College Atlas homepage, "Microsoft Office 365 for Personal Use" located on the right side.
2. **Weekly Check Your Understanding (CYU) Questions:** Lectures will finish by asking you to restate what you learned with "Check Your Understanding" (CYU) questions provided at the end of the lecture narrations. You will type or hand-write the answers to the CYU questions and submit them electronically through Canvas (this may consist of scanning if you choose to handwrite your CYUs) on or before their due date. Completing the CYU questions are mandatory assignments and will give you a higher exam grade if you use them as part of your Study Guide. **NOTE:** I cannot tell you how many students came to me at the end of the semester very close to an A or a B and did not do the Reading, CYUs, or studied for quizzes that would have given them the higher grade. It is to your benefit, and for better test grades, to complete every chapter CYU assignment by Saturday night at 11:59 pm. Late CYUs will have a 10% penalty per day.
3. **Chapter Reading and Homework Assignment in Connect:** The lecture assignments follow the Cowan Microbiology textbook. The great feature in the textbook reading is the Adaptive Learning that Connect does with the material. You begin your "reading" by answering questions about the material, and the questions adapt the subject matter to your personal knowledge base as you read. Listening to the lectures first and doing the CYUs will minimize the amount of reading you will have to do. One improved feature of Canvas is the mobile app that you can download and read on the go. Even better, you can download the chapter and read it offline.
4. **Weekly Chapter Quiz Assessments:** After finishing the Reading, you will have a weekly 10 question Quiz on each Chapter in Canvas. Quizzes are the AVERAGE of two (2) attempts, so do your best and you will keep a high grade. All quizzes open on Wednesdays and are due by Saturday night at 11:59 pm, and late quizzes will have a 10% penalty per day.
5. **Unit Exams** for each of the 5 Units will be given to assess your knowledge as described below. Three (3) chapters are tested in each Unit Exam.

6. **Final Exam:** The Final is cumulative and will cover the material in the 5 Unit Exams. Your best study tool is your lecture notes and the CYUs and Review questions. The exam questions will come from these areas.

LABORATORY ASSIGNMENTS (All Due by Sunday nights):

1. **Laboratory:** The lab assignments will consist of experiments done in person. Labs are a mandatory part of the course, and I assure you that you cannot do well in this course if you miss labs. To make the most of the labs, you will:
    1. Read your weekly Lab in the Lab Manual before coming into the lab, filling in some of the Pre-Lab questions to understand what you will be doing.
    2. Watch the Lab Presentation I created so you can be aware of the background and be ready to get started in the lab.
    3. During the lab, you will demonstrate proficiency in the laboratory experiments. We perform lab experiments and observations in class, and we cover the post-Lab questions in class. The Post-Lab questions should be filled in after class as soon as possible and submitted as an assignment.
2. **Laboratory Quizzes:** After completion of the laboratory in class each Thursday, you will use the information you learned to take the Laboratory Quiz in Canvas each **week by Sunday night** at 11:59pm. You will have 2 attempts to complete the quiz, and each attempt will start a new submission. The final grade will be an **average** of the 2 quiz grades. Late quizzes will have a 10% penalty per day.
3. **Laboratory Write-Ups:** These are the Pre-Lab and Post-Lab questions, and occasionally an explanation of results or case studies for the Laboratory. Write the Questions and Answers in a separate journal or notebook; there is not enough space in the Laboratory Manual to adequately answer the questions. This includes charts, but an image of your chart is acceptable. This way of writing up the lab reports creates a solid Study Guide you can use for the Laboratory quizzes and exams. These assignments are due **Sunday** after we complete the weekly laboratory analysis.

ASSESSMENT METHODS AND EVALUATION SCALE:

QUIZZES (Lecture and Laboratory):

The quizzes come from the narrated lectures and the basic laboratory information to help you determine your current understanding of the material. The quizzes can include multiple-choice, fill-in-the-blank, true/false, and short answer responses. You should keep in mind two things:

- #1, you are given two chances on the quiz, but the 2 scores are AVERAGED. Do well on the first one, and your score will increase on the second one.
- #2, the lecture and lab quizzes are timed, so you will have to complete the assigned quiz within the time I have allotted for the quiz. **There will be NO dropped quizzes in this course**, so it is imperative that you are prepared for every quiz. The lectures, reading, taking notes to create your own study guide with the CYUs and Review questions will give you all the information to succeed.

Unit Exams (5 Units) and Cumulative Final Exam:

- The course material of 15 chapters is divided into 5 Units. Each Unit Exam will consist of 55 multiple-choice questions from the Chapters and the Laboratories you have covered within the Unit. It is also important to remember that the exams are timed; you will have 60 minutes to complete each of the Lecture Unit Exams. **There will be NO dropped exams in this course**, so it is imperative that you are prepared for each one.
- The 5 Unit Exams will be given on Canvas and open at 7:00 am on Friday and close at 11:59 pm on Sunday. Once started, you will have 70 minutes to take the 55-question exam. There will be only one attempt.
- **THERE ARE NO MAKE-UP EXAMS.** If you miss the lecture exam, you will have a 0 for the exam. The only exception is a documented hospitalization or other extreme reasons that are subject to my discretion, in which you should notify me as soon as possible. **Failure to take any of the assessments in the course will result in the student being given a grade of 0 (zero) for that assessment.** See the Make-Up policy below for making up a 0.

GRADING / MAKE-UP POLICY

Each lecture and laboratory assessment will be given over a range of days and times to provide the most flexibility when it comes to your opportunity to complete that assessment. **If you miss the deadline for a quiz, late work has a 10% penalty per day. If you miss a Unit Exam, the score will be counted as a zero (0).** As such, it is your responsibility to make sure that you complete each assessment on, or before, its scheduled due date.

However, if you miss a single unit lecture exam, for any reason, I will use the grade you receive on the cumulative Final Lecture Exam to replace the grade of zero (0) for that one Unit Exam. If you miss two or more Unit Exams, then this policy will only apply to one of the missing Unit Exams, the other missing exam being assigned a grade of zero (0).

GRADING SCALE

5 Unit Exams	110 X 5 = 550 points
Cumulative Final Exam	150 points
Lecture CYU Questions	10 X 15 = 150 points
Reading Assignments	150 points
Lecture Quizzes	10 X 15 = 150 points
Weekly Lab Write-Ups	20 X 11 = 220 points
Lab Quizzes	10 X 11 = 110 points
Lab Mid-Term Practical	120 points
Lab Final Practical	120 points
Total points for course:	**1,720 points**

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

EXTRA CREDIT: I occasionally have extra credit assignments, additional work concerning some of the concepts in this course like basic Chemistry. Depending on the class average of each exam, I may use a Unit Exam "Redemptive" Assignment. I know multiple choice assessments can be tricky, and even the best students can miss questions due to misunderstanding the wording or vague understanding of the question. One great way to understand the subject is to explain WHY you got an exam answer wrong. In this case, I allow students to look over their exam the day after the close of the exam and correct their answers ***using full explanations***. While an exam question is worth two (2) points, correcting a wrong answer will earn, or "redeem" a student back one (1) point. It can turn an F exam grade into a B, and I will cover this in more detail should this extra credit opportunity need to be utilized.

Under no circumstances will your test scores, total points, or final grades be discussed on the telephone or over e-mail. FERPA rights to privacy prevent the divulging of scores or related materials by these means. I can only discuss your grades in person after our Thursday laboratory or a private scheduled Zoom meeting. Scores will be provided and updated regularly through your Canvas course.

COURSE POLICIES

TESTING POLICY

Academic Honesty Agreement: You will be required to sign an academic honesty agreement and send it to me the first week of class. Access to take the Unit 1 Exam will open only if your signed agreement is on file.

Honorlock: Valencia college has adopted the Honorlock application as the remote proctoring application for online examinations this fall. Honorlock is an online exam proctoring service to promote academic integrity during online testing. **By enrolling in this course, you consent to the use of the proctoring software, including but not limited to any audio and/or visual monitoring which may be recorded during the exam.**

- A significant benefit of this, as a student, is that you do not need to create an account, download software, or schedule an appointment in advance. You have the flexibility to take your exams on your schedule, when you are ready, within the time constraints of the exam schedule itself.
- Additionally, **the requirement for proctoring during the course is only for UNIT EXAMS.** You ***WILL NOT*** need to access Honorlock proctoring for lecture or laboratory QUIZZES.

Note: If, for any reason, HonorLock is not available for an exam, report it immediately to HonorLock and to me, your instructor. Any exam taken without HonorLock will receive a zero (0). For more information about Honorlock proctoring click here.

To take an online exam, you will need:

- A laptop or desktop computer with a microphone (not a tablet or phone)
- A webcam
- Reliable Internet connection
- Photo identification: either a Valencia-issued student ID card or government-issued ID card (i.e., driver's license, passport)

- Google Chrome downloaded (required browser)
- Honorlock Chrome Extension downloaded
- To ensure that your computer meets the minimum requirements for Honorlock proctoring, go to https://honorlock.com/support/. Scroll down and click on the button that says, "Run System Check". You should also confirm that your upload and download speeds are adequate by clicking on "Show Speed Test".
- For more information about Valencia College and its relationship with Honorlock, visit here.
- You will be remotely monitored and recorded while taking the exam, including your internet activity, attempted use of other devices and interactions with other people at your location. Canvas will also keep a record of your internet activity separately, including during the exam.
- I will have a simple Pre-Test for you to take during the second week of class so that we can work out the glitches in the Honorlock system, and everyone will be familiar with it prior to the Unit 1 Exam. Also, Honorlock support is available 24/7/365. Support access is built into Honorlock in real-time.
- **Under no circumstances will the use of any resources, including a textbook, notes, other people, or any electronic devices (other than the computer on which you are taking the exam) be permitted during the exam. There will be no wearing hats, earbuds or headphones, hoodies covering the head and ears, or dark sunglasses. Keep your eyes on the computer screen during the exam. These actions or looking for long stretches offscreen will cause Honorlock to flag your exam for questionable reasons, and I will review the audio and video footage to assess academic integrity.** This means you will want to take any examinations in a quiet location where you will not be disturbed and in an area that is clear of anything that might raise a "red flag" with the proctoring service.
- **Cheating is not tolerated at Valencia. Upon proof of one instance of plagiarism (discussion posts, written CYU questions, etc.) the student will receive a zero (0) for the assignment/assessment. Upon detecting this occurrence of plagiarism, I reserve the right to look back at previous written assignments/assessments and if another instance of plagiarism is found looking back from a previous date, the student will receive an F for the course and a referral to the Dean of Science and the Dean of Students.**

ATTENDANCE POLICY

Valencia College believes that regular attendance and participation by completing all class assignments are significant factors to promote success. Turning in your lecture and lab assignments counts as your weekly attendance for the lecture; I will take weekly attendance in the laboratory. **While the lecture portion of this Microbiology course is online, attendance in the Laboratory is mandatory. There are only 11 labs plus two exam sessions and there are no makeup opportunities; you must be committed to attending every laboratory meeting.** If you cannot attend lab for any reason, you must email your reason and will be responsible for the missed laboratory. Excused absences such as a medical absence with a medical note of proof will be excused, but work will still be required and graded; other non-medical reasons of absence are up to the discretion of the professor whether work will be accepted.

WITHDRAWAL DEADLINE POLICY

Per Valencia Policy 4-07 (Academic Progress, Course Attendance and Grades, and Withdrawals), a student who withdraws from class before the withdrawal deadline of **Friday, November 17th, at**

11:59pm will receive a grade of "W". A student is not permitted to withdraw after the withdrawal deadline. A student who is withdrawn by faculty for violation of the class attendance policy will receive a grade of "W". Any student who withdraws or is withdrawn from a class during a third or subsequent attempt in the same course will be assigned a grade of "F."

Students on financial aid should consult an advisor or a counselor before withdrawing from a course; there may be financial aid implications which the student should know about to make an informed decision before withdrawing from a course. Students with scholarships who withdraw from a class must pay the college for the cost of the class. Other scholarship sponsors may also require repayment.

Before you withdraw from this course, you should be aware that course withdrawals:

- Will increase the cost of your education
- May affect your financial aid status
- May affect your transfer grade point average
- May result in your having to pay the full cost of instruction fee to retake the course
- May affect your anticipated graduation date
- May result in your being denied access to limited access programs
- May affect your eligibility for the Honors Program
- May affect your immigration status if you are attending Valencia on a nonimmigrant visa
- Will result in your required repayment of course fees paid by a Bright Futures scholarship.

Conditions That Apply to a First or Second Attempt in a Course on or Before the Withdrawal Deadline

During a first or second attempt in the same course at Valencia, if you withdraw, or are withdrawn by the professor, you will receive a W (Withdrawn). You will not receive credit for the course, and the W will not be calculated in your grade point average; however, the enrollment will count in your total attempts in the specific course. Following withdrawal, you may, with the professor's approval, continue to attend the lecture for the remainder of the term. However, due to liability issues, you cannot continue to attend the laboratory component of the class

After the Withdrawal Deadline

A student is not permitted to withdraw after the withdrawal deadline. **It is important to note that I *WILL NOT* withdraw students from this course under any circumstances.** If you need to withdraw from the course, for any reason, it is up to you to do so through ATLAS. Any student who is still in the course after the withdrawal deadline will receive the grade earned in the course. For a complete policy and procedure overview on Valencia Policy 4-07, please visit here.

ACADEMIC CONDUCT POLICY

You are advised to read and understand Valencia's policies concerning student conduct, and the Letter from Dr. Gessner, the Dean of Science on page 11 of this syllabus. Each student is required to follow Valencia policy regarding academic honesty. All forms of academic dishonesty (cheating, plagiarism, forgery, misuse) are prohibited as stated in the Student Code of Conduct and will be disciplined or penalized accordingly. All work submitted by students is expected to be the result of each student's individual thoughts, research, and self-expression unless the assignment specifically states "group project."

With the first occurrence of academic dishonesty, in any form, a student will receive a zero (0) for that single assignment/assessment. Proof of a subsequent event of academic dishonesty will result in a failing grade in the class along with a referral to the Dean of Science and the Dean of Students.

STUDENTS WITH DISABILITIES POLICY

West Campus, SSB 102, Phone: (407) 582-1523 Office of Student Disabilities

Students with disabilities who qualify for academic accommodations must provide a Notification to Instructor (NTI) form from the Office for Students with Disabilities (OSD) and discuss specific needs with the professor, preferably during the first two weeks of class. The Office for Students with Disabilities determines accommodation based on appropriate documentation of disabilities.

BAYCARE BEHAVIORAL HEALTH'S STUDENT ASSISTANCE PROGRAM

Valencia is committed to making sure all our students have a rewarding and successful college experience. To that purpose, Valencia students can get immediate help that may assist them with psychological issues dealing with stress, anxiety, depression, adjustment difficulties, substance abuse, time management as well as relationship problems dealing with school, home or work. Students have 24-hour unlimited access to the Baycare Behavioral Health's confidential student assistance program phone counseling services by calling **(800) 878-5470.** Three free confidential face-to-face counseling sessions are also available to students.

A Victim Service Center's Sexual Assault Hotline is also available at **(407) 497-6701** or (407) 500-HEAL (4325).

VALENCIA COLLEGE POLICIES AND PROCEDURES

- Valencia College Student Handbook
- A full description of all College policies can be found in the College Catalog here.
- The Student Development resources can be found here.
- The Policy Manual can be found here.
- The College Calendar can be found here.

USEFUL INFORMATION REGARDING CANVAS

- This link is to the current Student FAQ page for Canvas.
- This link is included in the FAQ's and outlines the minimum system requirements to support Canvas.

DISCLAIMER

This is an outline of course policies and procedures. If any change is made to these policies, I will inform you of the change via a Canvas Announcement. Your continued participation in this course after the add-drop period constitutes an agreement with and an acceptance of the conditions presented within this syllabus.

LETTER FROM THE DEAN

Expectations of Academic Integrity

Welcome to the Science Division of Valencia College's West Campus; we are enthused to have this opportunity to assist you in achieving your educational goals. In working to provide you with the best learning experience at Valencia College, my expectation is that each of our faculty and students maintain the highest ethical academic standards.

From your professors, you can expect the following:

1. They will be on time to class and available during their scheduled office hours.
2. They will return graded tests, labs and other assignments when promised and within a reasonable period of time.
3. They will answer emails and phone calls within 48 business hours.
4. They will properly cite their references and resources, where applicable.

From you, we expect the following:

1. You will take your exams without referring to any books, notes, electronic devices or classmates unless you are specifically instructed that a test is open-book or collaborative.
2. You will not tell other students about test questions or answers before or during their exam and you will protect the exam from being seen by others.
3. You will avoid even the appearance of cheating by not looking in the direction of other exams, by not wearing clothing/hats/visors that hide your eyes, by keeping your belongings, other than pens, pencils and erasers away from your desktop, by going to the restroom before the exam and by asking your professor for permission and supervision if you need to retrieve another pen, pencil or eraser from your backpack or purse.
4. You will not allow anyone else to be the author of any part of your essays, lab reports or other written assignments and you will not include any materials from any sources (books, journals, other students, the internet, etc.) unless you give credit to those sources.

It is my hope that you will think about why it is important that we each show academic integrity and how cheating and plagiarism affect all of us, including those guilty of these academic crimes. Some students think that it only hurts their grade if they get caught cheating or plagiarizing, but cheaters typically lie not only to others, but to themselves. Eventually, cheaters pay a price.

- Those who cheat typically fail licensure exams, since they don't really know the material. Without a professional license, they won't be able to get employment. Would you want to be treated by a doctor who cheated in order to pass an exam that covered his or her knowledge of your disease? Also, if they falsify a patient's medical records, can you guess what can happen to them?
- Research scientists who falsify data are typically discredited and their reputations can be permanently ruined.
- Although you may think your professors have no clue when a student is cheating, usually your classmates do, and some will inform your professor.
- Cheating becomes habitual. See what happens when employees cheat their employer.

- Students who let others cheat off them are not doing anyone a favor. If you are in a highly competitive field, you may ultimately be aiding your competition.
- Guess what a professor says to a student seeking a letter of recommendation when they know the student cheated or plagiarized.
- Finally, what happens to a person's self-esteem and to their reputation when they act unethically by cheating or plagiarizing?

Use the following as your guide: *"Each student is required to follow Valencia policy regarding academic honesty. All work submitted by students is expected to be the result of the student's individual thoughts, research, and self-expression unless the assignment specifically states 'group project.'* To get the most out of each of your classes, it is best to learn how to study for long term comprehension, not just to memorize facts. Study so you can teach others what you are learning. My motto is, "*if you can't teach what you are learning to others, you don't really know the material*." Academic dishonesty, in the forms of cheating and plagiarism, will not be tolerated and for most of our science professors will result in a student getting a zero on a test or assignment for the first offense and then an F for the course if a student is caught cheating or plagiarizing again; at that point the Dean of Students will also be notified. Don't throw away your dreams and your reputation by showing a lack of academic integrity. We wish you the best and want you to succeed and be proud of your accomplishments at Valencia.

Dr. Robert Gessner
West Campus Dean of Science
Valencia College

LETTER FROM THE DEAN

Expectations of a Valencia College Science Student

Welcome to the Science Division of Valencia College's West Campus; we are enthused to have this opportunity to assist you in achieving your educational goals. Higher education is a privilege and an opportunity; it is your responsibility to realize that you are in control of those behaviors and actions that can enable success in this course.

From your professors, **you can expect** the following:

1. They will be prompt, courteous and respectful.
2. They will provide a professional learning environment throughout the entire scheduled instructional period.
3. They will provide an up-to-date syllabus; when changes need to be made, they will announce changes in a manner that is conveyed to all students in their class.
4. They will provide you with a course that is of necessary rigor to prepare you for the career you have chosen; because the class you are taking transfers to a four year college or university, it will be taught with the same academic expectations. The bonus of starting your education at Valencia, when compared to attending a four year college, is you will be able to get more personal attention with small class sizes and you will be able to save money; the classes are not easier.
5. They will offer time outside of class to discuss your questions.
6. They will be available to discuss your class concerns in private, outside of class time; you should try to resolve your class concerns with your professor before you try to voice your concerns with administrators.
7. They will respond to emails within 2 business days.
8. They will expect from you what they have expected from the many students who passed their classes in the past.

In return, this is **what your professor will expect from you**:

1. You will be prompt, courteous and respectful.

   Prompt means you come to class on time, ready to work, with all assignments completed before you enter class or lab. It means that you have studied, that all conversations, texting and diversions come to a stop and that you are ready to contribute to a positive learning environment from the beginning of the class or lab.

   Courtesy means you are polite in your attitude and behavior towards your professor and classmates.

   Respectfulness means that you regard everyone's classroom experience as valuable to them, that you accept your professor's expertise and experience to create relevant course objectives and that you treat college and personal property with care.
2. You will read your syllabus; your syllabus is a contract between your professor and you. Be aware of deadlines to complete assignments on time and know your professor's attendance policy. You will need to attend class for the full length of time allotted to your science class and lab.

3. You will be aware of Valencia College policies and procedures found in the college catalog; ignorance of policies and procedures doesn't mean they don't apply.
4. You will be serious about learning; it is your responsibility to be an active participant in your own learning. You will need to devote sufficient time to learn the material presented by your professor; for most students, this means you will need to spend at least two hours studying for every hour of instruction. Learning is an action verb; you will need to do more than sit through class and reread your notes to be successful. To succeed in higher level classes, you must retain the information, concepts and skills you will learn; this can only happen if you work at learning to make the course content a part of your long term memory. Do not cram!!
5. You will be encouraged to produce your own study guides. Most college professors do not provide study guides, but they can give you tips that will help you produce your own study guides to gain a better understanding of the course content.
6. You will be expected to participate fully in classroom activities. The work you produce must be your own; cheating in any form is not tolerated and your professor will have specific consequences, in their syllabus, which will be enforced should cheating occur.
7. You will be expected to contribute to a positive learning environment. Avoid classmates who speak negatively, or who have a negative outlook, about your class or your professor. Instead, get to know your professor during office hours; you will learn much more with a positive attitude.
8. You will be held to a high standard of maturity and responsibility. Disruptive behaviors will not be tolerated in the classroom or lab. First time disruptions will be handled by your professor and may include a request that you leave the class or lab. Very serious or repeated disruptions will be reported to the Dean of Science and the Dean of Students, with specific consequences that can include your permanent removal from the class. Disruptions include:
    - Being noisy when arriving late to class or leaving early.
    - Carrying on private conversations while the professor is talking.
    - Disrespectful language, tone and mannerisms.
    - Sleeping or attempting to sleep in class.
    - Repeatedly asking unnecessary or irrelevant questions.

My wish is that you get the best learning value from the science classes that you are taking. With everyone abiding by the expectations in this letter, your science classes at Valencia should be the next step in achieving your academic dreams.

Dr. Robert Gessner
West Campus Dean of Science
Valencia College

McGraw-Hill Connect and Canvas Online Lecture Schedule

Unit 1 Lecture Material

Date	Material	Assessment/Assignment
WEEK 1 **Aug 21 - 26**	**Chap. 1: The Main Themes of Microbiology** ***Including selected diseases*** **Follow the Plan:** #1 Take the Pre-Exam in Canvas. It will help you be able to use Honorlock so you will be prepared for Exams. #2 - Watch the Chapter 1 narrated Powerpoint lectures. Open the Check Your Understanding (CYU) questions in Canvas and take notes into them from the lectures. #3 – Go to Connect and complete Chap 1 LearnSmart Reading questions: the more you answer correctly, the less reading you need to read. Take notes, especially on what concepts you get wrong. #4 - Complete the CYUs and turn in by Saturday, and complete the Chapter Quiz.	(Canvas) **Pre-Exam** **(Connect) Prep for Microbiology** **Chapter 1 Connect LearnSmart Reading** **(Due Sat., Aug. 26)** **Chapter 1 CYU Questions** **Chapter 1 Quiz** **(ALL Due Sat., Aug. 26)** **EXTRA CREDIT ON CONNECT**
WEEK 2 **Aug 27 – Sept 2**	**Chap. 2: The Chemistry of Biology** ***Including selected diseases*** **Continue the Plan:** #2 - Watch the Chapter 2 narrated Powerpoint lectures. Open the Check Your Understanding (CYU) questions in Canvas and take notes into them from the lectures. #3 – Go to Connect and complete Chap 2 LearnSmart Reading questions: the more you answer correctly, the less reading you need to read. Take notes, especially on what concepts you get wrong. #4 - Complete the Chapter 2 CYUs and turn in by Saturday, and complete the Chapter 2 Quiz.	**Chapter 2 Connect LS Reading** **Chapter 2 CYU Questions** **Chapter 2 Quiz** **(ALL Due Sat., Sept. 2)** **EXTRA CREDIT ON CONNECT**
Sept 4	***LABOR DAY HOLIDAY***	**NO CLASS**
WEEK 3 **Sept 3 - 9**	**Chap. 3: Tools of the Laboratory** ***Including selected diseases***	**Chapter 3 Connect LS Reading** **Chapter 3 CYU Questions** **Chapter 3 Quiz** **(ALL Due Sat., Sept 9)**
Sept 8-10	**UNIT 1 EXAM: Chapters 1, 2, and 3** ***Including selected diseases***	**Unit 1 Lecture Exam** **(Opens Friday, Sept. 8 @ 7 am** **Closes Sun., Sept. 10 @ 11:59 pm)**

Unit 2 Lecture Material

Date	Material	Assessment/Assignment
WEEK 4 **Sept 10 - 16**	**Chap. 4: Bacteria and Archaea** ***Including selected diseases***	**Chapter 4 Connect LS Reading** **Chapter 4 CYU Questions** **Chapter 4 Quiz** **(ALL Due Sat., Sept 16)**
WEEK 5 **Sept 17 – 23**	**Chap. 5: Eukaryotic Cells and Microorganisms** ***Including selected diseases***	**Chapter 5 Connect LS Reading** **Chapter 5 CYU Questions** **Chapter 5 Quiz** **(ALL Due Sat., Sept 23)**
WEEK 6 **Sept 24 – 30**	**Chap. 7: Viruses and Prions** ***Including selected diseases***	**Chapter 7 Connect LS Reading** **Chapter 7 CYU Questions** **Chapter 7 Quiz** **(ALL Due Sat., Sept 30)**
Sept 29 – Oct 1	***UNIT 2 EXAM: Chapters 4, 5, and 7*** ***Including selected diseases***	**Unit 2 Lecture Exam** **(Opens Friday Sept 29 @ 7 am** **Closes Sun., Oct 1 @ 11:59 pm)**

Unit 3 Lecture Material

Date	Material	Assessment/Assignment
WEEK 7 **Oct 2 - 7**	**(OMIT Chap. 8: Genetic Analysis and DNA Recombination)** **Chap. 9: Microbial Nutrition and Growth** ***Including selected diseases***	**Chapter 9 Connect LS Reading** **Chapter 9 CYU Questions** **Chapter 9 Quiz** **(ALL Due Sat., Oct 7)**
WEEK 8 **Oct 8 - 14**	**Chap. 10: Microbial Metabolism** ***Including selected diseases***	**Chapter 10 Connect LS Reading** **Chapter 10 CYU Questions** **Chapter 10 Quiz** **(ALL Due Sat., Oct 14)**

WEEK 9 **Oct 15 – 21**	**Chap. 6: Microbial Genetics** *Including selected diseases*	**Chapter 6 Connect LS Reading** **Chapter 6 CYU Questions** **Chapter 6 Quiz** **(ALL Due Sat., Oct 21)**
Oct 20 - 22	**UNIT 3 EXAM: Chapters 9, 10 and 6** ***including selected diseases***	**Unit 3 Lecture Exam** **(Opens Friday Oct 20 @ 7 am** **Closes Sun., Oct 22 @ 11:59 pm)**

Unit 4 Lecture Material

Date	Material	Assessment/Assignment
WEEK 10 **Oct 23 – Oct 28**	**Chap 14: Epidemiology of Infectious Diseases** *Including selected diseases*	**Chapter 14 Connect LS Reading** **Chapter 14 CYU Questions** **Chapter 14 Quiz** **(ALL Due Sat., Oct 28)**
WEEK 11 **Oct 29 – Nov 4**	**Chap. 11: Physical and Chemical Control of Microbes** *Including selected diseases*	**Chapter 11 Connect LS Reading** **Chapter 11 CYU Questions** **Chapter 11 Quiz** **(ALL Due Sat., Nov. 4)**
Fri, Nov 11	**Veteran's Day**	**No Classes**
WEEK 12 **Nov 5 - 11**	**Chap. 12: Antimicrobial Treatment** *Including selected diseases*	**Chapter 12 Connect LS Reading** **Chapter 12 CYU Questions** **Chapter 12 Quiz** **(ALL Due Sat., Nov 11)**
WEEK 13 **Nov 12 - 18**	**Chap. 13: Microbe-Human Interactions** *Including selected diseases*	**Chapter 13 Connect LS Reading** **Chapter 13 CYU Questions** **Chapter 13 Quiz** **(ALL Due Sat., Nov 18)**
Nov 17 – 19	**UNIT 4 EXAM: Chapters 14, 11, 12, and 13** ***including selected diseases***	**Unit 4 Lecture Exam** **(Opens Friday Nov 17 @ 7 am** **Closes Sun Nov 19 @ 11:59 pm)**

Unit 5 Lecture Material

Date	Material	Assessment/Assignment
WEEK 14 **Nov 20 - 21**	**Chap. 15: Host Defenses I OPENS** ***Overview and Innate Immunity*** **Chap. 16: Host Defenses II OPENS** ***Adaptive Immunity and Immunization*** ** *I opened this chapter early so you may work on both chapters 15-16 through the Thanksgiving holiday if desired***	**No Assignments Due** ***(Thanksgiving Break)***
WEEK 14 **Nov 22 - 26**	***(Thanksgiving Break)***	**No Assignments Due** ***(Thanksgiving Break)***
WEEK 15 **Nov 27 – Dec 2**	**Chap. 15: Host Defenses I:** ***Overview and Innate Immunity***	**Chapter 15 Connect LS Reading** **Chapter 15 CYU Questions** **Chapter 15 Quiz** **(ALL Due Sat., Dec 2)**
WEEK 16 **Dec 3 - Dec 9** (opens Nov 20)	**Chap. 16: Host Defenses II:** ***Adaptive Immunity and Immunization*** **A suggestion to put on your calendar:** • Complete Chap 15 during Week 14, and submit before Dec 2nd; • Complete Chap 16 by Dec 2nd also • Study for Final Exam and take it as early as Tuesday, Dec 5th to be finished with the course!	**Chapter 16 Connect LS Reading** **Chapter 16 CYU Questions** **Chapter 16 Quiz** **(ALL Due Sat., Dec 9)**
FINALS WEEK **Dec 7 – 10**	**UNIT 5 EXAM: Chapters 15 and 16**	**Final Lecture Exam** **Opens Tues., Dec 5 @ 7 am** **Closes Sat., Dec 9 @ 11:59 pm**

Microbiology Laboratory Schedule
Dr. Falcone, Fall 2023
Lab Room AHS-320 Thursdays 7:00pm-9:45pm

Lab Manual required: Saad and Persaud, Microbiology Lab Manual 4th Edition, Morton Pub., Englewood, CO.

WEEK	DATE	LAB EXERCISES	ASSESSMENT/ ASSIGNMENT
1	Aug 24	**Lab #1: Lab Introduction** • **Safety and laboratory Guidelines: Read pp. 1-6** • **"Scavenger hunt":** Locate lab's safety equipment • **Exercise 1-1:** Proper Hand Washing Technique: Glo-Germ™ Hand Wash Education System • **Exercise 1-2**: Bacteria are Ubiquitous • **Exercise 1-3:** Introduction to the Light Microscope ○ learn parts, use, care and storage of the microscope; crossed thread and letter "e" prepared slides	**Post Lab Quiz #1 In Canvas (Due Sun., Aug 27)**
2	Aug 31	• **Read page 19**, Nutrient Agar and Nutrient Broth Preparation, and **pp. 59-66** about Colony Morphology **Lab #2: Culturing Bacteria and Using the Microscope** • Analysis of "Bacteria are Ubiquitous" plates from last week • **Introduction to the Light Microscope – cont'd.** • **Exercise 2-1**: Survey of Eukaryotic Microorganisms (finish observing prepared slides) • **Exercise 2-11:** Steam Sterilization ("field trip" to see and explain the principles of an autoclave) • **Exercise 2-2:** Aseptic Technique and Culturing of Microorganisms : Common Aseptic Transfers and Inoculation Methods • **Exercise 2-3:** Streak Plate Methods of Colony Isolation: Isolating Individual Microbes	**Lab #1 Write Up** (Pre- and Post Lab Q/A and Post-Lab Observation Q/A on page 8) **Post Lab Quiz #2 (Both Due Sun. Sept 3)**
	Sept 4	**LABOR DAY HOLIDAY**	

3	**Sept 7**	• **Read p. 20** about Growth Patterns on Slants and Broth **Lab #3: Staining** • Analysis of "Aseptic Transfers and Inoculation Methods" and "Streak Plate Method" from last week • Simple Stains • Negative stains • Assess each student's ability to properly clean the microscope • Wet Mount Preparations – Live protist samples or pond water samples from Lake Pamela	**Lab #2 Write Up** (Pre-Lab Q/A p. 15, Post Lab Q/A p. 24) **Post Lab Quiz #3** **(Due Sun., Sept 10)**

4	**Sept 14**	**Lab #4: Staining II**
		• Gram Stain (Optional assessment of student ability to observe stained bacteria under the oil immersion lens)
		• Acid-Fast Stain (prepared slides for observation)
		• Endospore Stain (prepared slides for observation)
		
		• **Prep for Lab #5: Set up for the Selective and Differential Media Inoculation Lab Analysis**
		  ○ Phenylethyl Alcohol Agar
		  ○ Columbia CNA with 5% Sheep Blood Agar
		  ○ Mannitol Salt Agar
		  ○ MacConkey Agar
		  ○ Eosin Methylene Blue Agar
		  ○ Hektoen Enteric Agar
			Lab #3 Write Up
			(Pre-Lab Q/A p. 25, Post Lab Q/A p. 30)
			
			Post Lab Quiz #4
			(Due Sun., Sept 17)

5	**Sept 21**	**Lab #5: Selective/Differential Media**
		• Analysis of last week's experiments
		
		• **Set Up for the Physical Growth Factors for Bacterial Growth Lab Analysis**
		  ○ Fluid Thioglycollate Medium
		  ○ The Effect of Temperature on Microbial Growth
		• **Set Up for Bacterial Nutrition Inoculation Analysis**
		  ○ Starch Hydrolysis
		  ○ DNA Hydrolysis
		  ○ Lipid Hydrolysis
		  ○ Casein Hydrolysis
			Lab #4 Write Up
			(Pre-Lab Q/A p. 31, Post Lab Q/A p. 36)
			
			Post Lab Quiz #5
			(Due Sun., Sept. 24)

6	**Sept 28**	**Lab #6: Physical Growth Factors for Bacterial Growth** • Analysis of last week's experiments • **Set up for the Introduction to Biochemical Test Media Lab Analysis** ○ Catalase Test ○ Oxidase ○ Nitrate Reduction ○ Phenylalanine deaminase ○ Triple Sugar Iron Agar/Kligler Iron Agar ○ Coagulase and Clumping Factor Tests	**Lab #5 Write Up** (Pre-Lab #5 Ex. P. 37-8, Post Lab Q/A p. 46) **Post Lab Quiz #6** **(Due Sun., Oct 1)**
7	**Oct 5**	**MIDTERM LAB PRACTICAL EXAM** • Practical questions come from the laboratory experiments performed during Weeks 1-6	**No Assignments Due**
8	**Oct 12**	**Lab #7: Introduction to Biochemical Test Media (Culture and Sensitivity, C&S)** • **Analyze the results for the Introduction to Biochemical Test Media Lab** • **Set up for the Analysis of Culture & Sensitivity** ○ Phenol Red Fermentation Broth ○ Methyl Red and Voges-Proskauer Tests ○ Citrate Utilization Test ○ Amino Acid Decarboxylation ○ Gelatin Hydrolysis ○ Urea Hydrolysis ○ SIM Medium ○ Identification of Enterobacteriaceae • **Set up for antibiotic Susceptibility Lab Analysis** ○ Antibiotic Susceptibility Test (Kirby-Bauer Method)	**Lab #6 Write Up** (Pre-Lab #6 Ex, p. 49, Post Lab Q/A p. 56) **Post Lab Quiz #7** **(Due Sun., Oct 15)**
9	**Oct 19**	**Analysis of C&S: Unknown Identification Lab; Analysis of Antibiotic Susceptibility** • Analysis of last week's experiments ○ Identification of Enterobacteriaceae ○ Antibiotic Susceptibility Test (Kirby-Bauer Method)	**Lab #7 Write Up** (Pre-Lab p. 57, Post Lab Q/A p. 67 **and Case Studies)** **Post Lab Quiz #8** **(Due Sun., Oct 22)**

10	**Oct 26**	**Lab #9: DNA: Transformation and DNA Damage by Ultraviolet Light**
		• **Set up for the Transformation and DNA Damage by UV Lab for next week's analysis**
		  ○ The Lethal Effect of Ultraviolet Light on Microbial Growth
		  ○ Bacterial Transformation: the pGLO System
			Lab #8 Write Up
			(Pre-Lab Q/A p. 69, Post Lab Q/A p. 77)
			
			Post Lab Quiz #9
			(Due Sun., Oct 29)

11	**Nov 2**	**Lab #10: Immunology lab**
		• Analysis of last week's experiments
		• **Set up and analyze:**
		  ○ ELISA Test (HIV simulation test)
		  ○ Epidemic Simulation (Influenza party☺)
			Lab #9 Write Up
			(Pre-Lab Q/A p. 79, Post Lab Q/A p. 83)
			
			Post Lab Quiz #10
			(All Due Sun. Nov 5)

12	**Nov 9**	**No Laboratory Experiments** **Review Labs 7-10 in Lab or Lecture Session**	
13	**Nov 16**	**Lab #11: Differential Blood Cell Count** • Differential Blood Cell Count • Patient Sample Analysis	**Lab #11 Write Up** (Pre-Lab Q/A p. 91, Post Lab Q/A p. 93) **Post Lab Quiz #11** **(Due Sun. Nov 19)**
	Nov 22 – 26	**Thanksgiving Holiday**	
14	**Nov 30**	**FINAL LAB EXAM** • Exam on lab experiments performed during Weeks 7-12 • Final Lab notebook check and grades recorded	