

Instructor: John Ireland, Ph.D.
Office: 136A McDivitt Hall
Phone: 796-8576
Office Hours: See Website
Email: prof.ireland@gmail.com

Biology 220-Microbiology

<http://personal.jccmi.edu/irelandjohn/Bio220>

Text: *Microbiology, an Introduction* (9th Edition, 2007) Tortora, Funke, Case

Lab Manual: BIO220 Lab Manual – Thurlow – JCC

Lab Equipment: Sharpie Pen (Required)
Color Pencils (Recommended)
Magnifying Glass (Recommended)

Both the text and lab manual are required and available at the campus bookstore.

CONTENT

This course covers the fundamental areas of classical microbiology, including bacteria, fungi, and viruses. The structure and basic physiology of representative microorganisms will be covered. Special emphasis will be given to pathogens, epidemiology, and immunology. The class will integrate recent advances, techniques and procedures relevant to the health care field.

The following Associate Degree Outcomes (ADO) will be addressed in the class.

ADO 4: Demonstrate Scientific Reasoning
ADO 7: Think Critically

GRADING

The Final Grade for this class will be based on the following distribution.

Lecture Exams/Lecture Quizzes	500 pts
Final Exam	200 pts
Lab Reports	80 pts
Lab Unknown Report	120 pts
Participation (Class)	50 pts
Participation & Technique (Lab)	50 pts
TOTAL	1000 pts

MAKE-UP WORK

Given the amount of leeway inherent in the grading scheme (dropped or replaced grades) **there will be no make-up exams, quizzes, or labs for any reason.** Therefore it is in your best interest to try your hardest on every assignment so that you can save that leeway for a time when you really need it.

ASSIGNMENTS

I give seven (7) out of class assignments worth twenty (20) points each. These grades are taken as a total for the semester, and **counted as a single test grade that replaces your lowest test grade (EVEN IF IT IS LOWER THAN YOUR LOWEST TEST GRADE).** On the positive side, the total number of points available in the semester will be greater than 125 (the test maximum), so if you do well on the quizzes and assignments it is possible to have a 130 - 140 test score counted into your point total.

EXAMS

My exam philosophy is simple; they are designed to demonstrate that you know the material and can explain it back to me. First the bad news, I do not give all multiple choice tests. Contrary to popular belief, none of the microbiology professors give **all** multiple choice tests. My exams are typically divided into three parts. The first part is a fairly simple recall exercise (multiple choice, matching, series order, etc.) that is worth between 20-30% of the test value. The second part is an application section where I will want something like a drawing or translating a genetic sequence (again, worth 20-30%). The remaining fraction of the test (40-60%) is short answer. Short answers can be as simple as a word or two (much like fill in the blank) up to a simple paragraph. Even if there is an essay on the test (meaning a paragraph or two), you will be able to do well on the test without it. There will be four tests during the semester and you will replace your lowest score with your Assignment score.

LAB UNKNOWN

The purpose of the laboratory component to this class is to teach you the practical application of the basic lab methods used in microbiology. The ultimate application of this knowledge in microbiology is the identification of unknown microorganisms. There is not an **artificial** "practical exam" in the microbiology lab. Instead you will be responsible for applying the techniques you learn to decipher the identification of a common microorganism. As this represents the application of your acquired knowledge through the semester, in some ways you can think of it as a "practical final" for the laboratory.

FINAL EXAM

The Final Exam will be a cumulative exam that covers the entire semester's material. Do not stress during the semester about the Final, it does not represent an inordinate amount of your final grade and it is possible to perform well in the class despite a poor performance on the final. The purpose of the Final Exam is to allow a chance to integrate material from the entire semester into applications and comprehensive questions.

LAB REPORTS

Labs will have a required report. These reports will be collected at the end of the laboratory period and graded for completeness and correctness. Please turn in all reports, as **no credit will be given for late work.**

PARTICIPATION AND TECHNIQUE

Active participation in the lecture and laboratory class is necessary for a student's success. This part of your final grade is determined by your actions. Each student begins with the full one hundred (100) points, and adjustments are made for negative actions. Actions that would impact this score are things such as (but not limited to): not cleaning a lab area after your work is done, not attending a lecture period, failure to follow directions, and tardiness.

GRADE SCALE

4.0:	930 -1000 pts	1.5:	650 – 699 pts
3.5:	860 – 929 pts	1.0:	600 – 649 pts
3.0:	800 – 859 pts	0.5:	550 – 599 pts
2.5:	750 – 799 pts	0.0:	< 550 pts
2.0:	700 – 749 pts		

CHEATING

Any students found cheating and/or plagiarizing will receive a grade of 0.0 for the particular exam or assignment. A second offense will result in a grade of 0.0 for the course. ALL INCIDENTS WILL BE REPORTED TO THE ACADEMIC DEAN

The JCC Catalog states, “Academic honesty is expected of all students. It is the ethical behavior that includes producing their own work and not representing others’ work as their own, either by plagiarism, or by cheating, or by helping others to do so. Faculty members who suspect a student of academic dishonesty may penalize the student by taking appropriate action to and including assigning a failing grade for the paper, project, report, exam, or the course itself. Instructors should document instances of academic dishonesty in writing to the Academic Dean.”

WITHDRAWAL AND INCOMPLETE

It is your responsibility as a student to take charge of your academic decisions. If you wish to withdraw from the course, please pay attention to the academic schedule available online (*E-services*). You **may not** be automatically removed from the class roster if you stop attending class; **ultimately you are responsible for your own academic decisions.**

An Incomplete mark is only given if you have preformed satisfactorily before the request is made. The Incomplete mark is subject to the conditions outlined in the Jackson Community College catalog.

CLASS CONDUCT

Please recognize that all students have an equal right to a quality classroom experience. Behavior that would adversely affect the rights of another student (i.e. side conversations, disruptive actions, etc.) will result in those responsible being asked to leave for the remainder of the period and losing credit for any work that is missed.

LECTURE NOTES

I provide chapter outlines on the class website for your use. These would enable a well prepared student (i.e. someone with a background in biology and chemistry) to get through this class with the minimum of external aid. However, **these notes are by no means exhaustive and should not be seen as such**. As the old saying goes, “the devil is in the details.” I suggest that you use these notes as a supplement to your own or as a tool to make sure you didn’t miss something during a lecture. You are responsible for all topics covered in lecture and any reading material assigned. I do not intentionally write trick questions or dredge obscure factoids out of the text; but I do count all topics as fair game. Prior to each exam I provide a study guide on the website (**again, not exhaustive**), for your use in preparing for the test.

STUDENT SUCCESS

The Foundation Studies Department includes the Center for Student Success, located at **123/125 Bert Walker Hall (796-8415)**. CSS can help students who require special assistance (including those affected by the Americans with Disabilities Act) as well as those interested in tutoring help or other free services.

EMAIL AND THE WEB

Today’s society is increasingly being divided between the technologically savvy and those that still do not use the modern digital age. I have integrated the use of email and the web into my course. I find that the web is an excellent way to disperse ancillary or supplemental material for my students, and that email is a more reliable method of contacting many of them. Given the extensive free access to the web (with attendant available free email accounts) in our community (i.e. libraries) and on campus I feel that every student should be able to access the information I provide. If you do not know how to utilize these services, please see me and I will help to set you up.

SCIENTIFIC TERMINOLOGY

The study of Microbiology requires the learning of a whole new vocabulary. This lexicon of terms is essential in effective communication of ideas. You will be responsible for knowing the proper usage and spelling of terms discussed about in this class. As the semester progresses, you will begin to be held accountable for a variety of scientific names for common microorganisms as a way of expanding your professional vocabulary.

THE ENGLISH LANGUAGE AND MATHEMATICAL THINKING

Both Basic English Composition and Pre-Algebra are prerequisites for this course. You will be held accountable for that knowledge base. The ability to effectively communicate and think critically (a skill developed in mathematics) are essential to your success

through out your career. With this in mind, any assignments that are completed outside of class **must be typed (double-spaced please, I have bad eyes)**, in proper grammatical form and spell-checked. Any work completed during class will have a less rigorous standard, but it is expected that you will convey your answers clearly, concisely, and completely. I can only grade what you specifically answer for a question, not what you “meant” in your answer.

Again, I reiterate that this class does require the use of both a word processor (or typewriter) and a spreadsheet program (or very neat use of graph paper and a ruler). These programs are freely available for your use in campus computer labs, and both the IT help staff and I can assist in teaching you to use them. If you wish to use your own computer, be aware that there are a number of free office packages available on the web (Abiword, Gnumeric, Open Office to name a few), which I can also assist you in learning. The use of modern computer office software is an essential job skill that should be mastered while in college, and as such I incorporate it into the course.

ABSENTEEISM AND PERSONAL RESPONSIBILITY

One hallmark of being a professional is when you can take responsibility for your own actions. When you signed up for this class you entered into an agreement that we would meet during the designated times for the class and cover the material outlined in the catalog. If you need to be absent from my class it is courteous for your to notify me prior to the class. You are responsible for any material during the class you missed and any changes to the schedule that may have occurred during that class (i.e. change of test date). As in the professional world, class goes on in your absence. I am sympathetic to family tragedies but there is already plenty of leeway in the grading scheme to accommodate a few needed absences. It would be unprofessional of me to allow a student to pass who has missed a significant amount of the course. I am not responsive to unnecessary absences (such as vacations during semester) and will be unsympathetic to problems that arise from these.