

Basic Course Information

Semester:	Fall 2017	Instructor Name:	Samuel David
Course Title & #:	BIOL 220; General Microbiology	Email:	Sam.david@imperial.edu
CRN #:	10046 and 10048	Webpage (optional):	
Classroom:	2712	Office #:	2772
Class Dates:	8/14/2017-12/7/2017	Office Hours:	MTWR: 12:50-1:50
Class Days:	MTWR	Office Phone #:	(760) 355-6298
Class Times:	0800-0925; 0935-12:45	Emergency Contact:	Department Secretary (760-355-6155)
Units:	5		

Course Description

Provides students with fundamental concepts of the structure and physiology of non-disease and disease producing microorganisms with particular attention to bacteria. Basic techniques for culturing, staining, counting and identifying microorganisms. Designed to meet the requirement to enter one of the medical fields as well as general education. (CSU, UC)

Course Prerequisite(s) and/or Corequisite(s)

[Required language: Use from [CurricUNET](#) course outline of record.]

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Accurately explain the basic principles of microbiology, which include but are not limited to: structure and functions of prokaryotic and eukaryotic cells, microbial metabolism, bacterial/molecular genetics, pathogenesis, virology, and immunology. (ILO1, ILO2)
2. Devise a dichotomous key to aid in the identification of disease-causing bacteria in the lab, and accurately identify disease-causing bacteria by using the key and experimental techniques. (ILO1, ILO2)
3. Perform experimental techniques in microbiology correctly to test hypotheses, determine characteristics of microbes and perform diagnostics. (ILO2)

4. Apply lecture and laboratory concepts with critical thinking to explain experimental data and scenarios in microbiology not addresses directly in class/laboratory. (ILO1, ILO2)
5. Fully participate in classroom and laboratory activities. (ILO3)

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. The student will list and describe the major historical events in the field of microbiology and the people and experiments involved. The student will also describe different schemes of classification and utilize them to classify and identify microorganisms.
2. The student will describe different types of microscopy, their usage, advantages, and explain the general physical laws governing their operation.
3. The student will describe the general morphology of microorganisms and explain their associated cellular physiology.
4. The student will recognize and apply various techniques and factors necessary for optimum growth of different microorganisms.
5. The student will describe different modes of reproduction among microorganisms and calculate reproduction rates and population size of microorganisms. Student will differentiate among methods of producing pure cultures and describe cultural characteristics of microorganisms.
6. The student will describe enzyme structure and explain enzyme function, regulation, and measurement of activity.
7. The student will describe and explain the various biochemical reactions and pathways of metabolism.
8. The student will describe the various means of inheritance and recombination in microorganisms and explain the results of various genetic situations. The student will describe technique of recombinant DNA.
9. The student will describe death and death-rate determination in microorganisms and explain the effects of various physical and chemical agents on microorganisms.
10. The student will describe chemotherapeutics including antibiotics and will explain the action of antibiotics in microorganisms including measurement of activity.
11. The student will describe the normal microbial flora of the human and explain the infection process and the host's defensive response.
12. The student will explain the theory of common diagnostic techniques and describe their usage.
13. The student will describe the epidemiology and the various modes of transmission of infectious diseases.
14. The student will list and describe the bacterial cause, symptoms, prognosis, and treatment of selected human diseases.
15. The student will list and describe the viral prion cause, symptoms, prognosis, and treatment of selected human diseases.
16. The student will list and describe the fungal or protozoan cause, symptoms, prognosis, and treatment of selected human diseases.
17. The student will list and describe the viral or bacterial cause, symptoms, prognosis, and treatment of selected plant diseases.

Textbooks & Other Resources or Links

Required Texts:

1. **Microbiology, An Introduction.** By Totoro, Funke and Case; (11th Edition)
Pearson -Cummings
ISBN # 13: 978-0-321-73360-3
2. **Lab Manual: Microbiology, Laboratory Theory and Application (Brief Edition)**
2nd Edition Morton Publishing. ISBN# 089582947-9

Course Requirements and Instructional Methods

This course includes both lecture and lab component. In order to pass the class you need to participate in both portions of the class which includes regular attendance and participation in both lecture and lab. In addition to all the exams you must take the final exam to receive a passing grade.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

Course Grading Based on Course Objectives

Grading Scale: **A=90-100%**
 B= 89-80%
 C= 79-70%
 D= 69-60%
 F= Below 60%

Grading Policy:

Exams (500Points):

There will be FIVE exams during the course, each worth 100 points. There will be NO MAKE-UP EXAMS.

Final Exam (100 Points): The final exam must be taken as scheduled to receive a passing grade. In case of illness or other valid excuse for which there is a written documentation, please notify me as soon as possible so that I can make suitable arrangements.

Quizzes will be given on any day/anytime the class meets. Points for the quizzes will be discussed in the class.

In addition to exams based on lecture, there will be lab exams and may also include Research Paper/Presentation. Points for these assignments will be discussed in the class.

Points you earn in the exams, quizzes, class/lab assignments graded by the Instructor will contribute towards your overall grade in the class for the semester. **STUDENTS ARE ABSOLUTELY RESPONSIBLE FOR KEEPING TRACK OF THEIR ACADEMIC PROGRESS DURING THE COURSE.**

Attendance

[Required Information: The below information is the IVC attendance policy. Use this information in addition to any specific attendance policies you have for your course.]

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See [General Catalog](#) for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

Classroom Etiquette

[Required Information: Describe your policies regarding classroom conduct. The below is suggested language and may be modified for your course.]

- **Electronic Devices:** Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
- **Food and Drink** are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed by the instructor.
- **Disruptive Students:** Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the [General Catalog](#).
- **Children in the classroom:** Due to college rules and state laws, only students enrolled in the class may attend; children are not allowed.

Online Netiquette

[Required Information for web-enhanced, hybrid and online courses: Describe your policies regarding netiquette. The below is suggested language and may be modified for your course.]

- What is netiquette? Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online.
- Students are to comply with the following rules of netiquette: (1) identify yourself, (2) include a subject line, (3) avoid sarcasm, (4) respect others' opinions and privacy, (5) acknowledge and return messages promptly, (6) copy with caution, (7) do not spam or junk mail, (8) be concise, (9) use appropriate language, (10) use appropriate emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!)].

Academic Honesty

[Required language.]

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the importance of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the [General Catalog](#) for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

Additional Student Services

[Suggested Language.]

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- **CANVAS LMS.** Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: [Canvas Student Login](#). The [Canvas Student Guides Site](#) provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- **Learning Services.** There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your [Campus Map](#) for the [Math Lab](#); [Reading, Writing & Language Labs](#); and the [Study Skills Center](#).
- **Library Services.** There is more to our library than just books. You have access to tutors in the [Study Skills Center](#), study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

[Required language.]

Any student with a documented disability who may need educational accommodations should notify the instructor or the [Disabled Student Programs and Services \(DSP&S\)](#) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

[Required language.]

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- **Student Health Center.** A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the [IVC Student Health Center](#) at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services.** Short-term individual, couples, family and group counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the [IVC Mental Health Counseling Services](#) at 760-355-6310 or in the building 1536 for appointments or more information..

Veteran's Center

[Required language.]

The mission of the **IVC Military and Veteran Success Center** is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

Extended Opportunity Program and Services (EOPS)

[Required language.]

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, lourdes.mercado@imperial.edu.

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, alexis.ayala@imperial.edu.

Student Equity Program

[Required language.]

- The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities

and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students' access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.

- The Student Equity Program also houses IVC's Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

Student Rights and Responsibilities

[Required language.]

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC [General Catalog](#).

Information Literacy

[Required language.]

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC [Library Department](#) provides numerous [Information Literacy Tutorials](#) to assist students in this endeavor.

Anticipated Class Schedule/Calendar

[Required Information – Discretionary Language and Formatting: The instructor will provide a tentative, provisional overview of the readings, assignments, tests, and/or other activities for the duration of the course. A table format may be useful for this purpose.]

WK	DAY	DATE	LECTURE	LABORATORY	M
1	Mon/Tue	8/14;8/15	Introduction; Chapter 1	Ex. 2-1; 3-1	
	Wed/Thur	8/16;8/17	Chapter 1 (Continued)	Ex. 1-2;2-5;3-4	
2	Mon/Tue	8/21;8/22	Chapter 2	Ex. 3-6;3-8	
	Wed/Thur	8/23;/824	Chapter 3	Ex. 3-7;3-9	
3	Mon/Tue	8/28;8/29	Monday Holiday		
	Wed/Thur	8/30;8/31	Chapter 4	Gram Stain Test	MINOR UNKN

4	Mon/Tue	9/4;9/5	EXAM 1 (Ch.1-3)	Ex. 4-1	
	Wed/Thur	9/6;9/7	Chapter 5	Ex. 4-4;	
5	Mon/Tue	9/11,9/12	Chapter 6	Ex. 4-6	
	Wed?Thur	9/13,9/14	Chapter 7	Ex. 5-2;5-3;5-4	
6	Mon/Tue	9/18,9/19	EXAM 2 (Ch. 4-6)	Ex. 5-5;5-7	
	Wed/Thur	9/20;9/21	Chapter 8	Ex. 5-8; 5-9; 5-10	
7	Mon/Tue	9/25;9/26	Chapter 9	Minor; 5-8;9;10	
	Wed/Thur	9/27;9/28	Chapter 10	Minor; 5-11;13;14	
8	Mon/Tue	10/2;10/3	EXAM 3 (Ch. 7-9)	Minor	
	Wed/Thur	10/4;10/6	Chapter 11	Minor	
9	Mon/Tue	10/9;10/10	Chapter 12	Ex. 5-12	
	Wed/Thur	10/11;10/12	Chapter 13	Ex. 5-17; 5-18	
10	Mon/Tue	10/18;10/17	EXAM 4 (Ch. 10-13)	Ex. 7-2	Major Unknown
	Wed/Thur	10/18;10/19	Chapter 14		
11	Mon/Tue	10/23;10/24	Chapter 15		
	Wed/Thur	10/25;10/26	Chapter 16		
WK	DAY	DATE	LECTURE	LABORATORY	M
12	Mon/Tue	10/30;10/31	Chapter 17	Major Unknown	
	Wed/Thur	11/1;11/2	Chapter 18, 19	Major Unknown	
13	Mon/Tue	11/6;11/7	EXAM 5 (Ch.16,17)		
	Wed/Thur	11/8;11/9	Chapter 20 (Wed. HOLIDAY)	Major Unknown	
14	Mon/Tue	11/13;11/14	Chapter 21	Major Unknown	
	Wed/Thur	11/15;11/16	Chapter 22	Major Unknown	
15	Mon/Tue	11/20;11/21	Holiday	Major Unknown	MAJOR UNK
	Wed/Thur	11/22;11/23	Holiday		
16	Mon/Tue	11/27;11/28	Chapter 23		
	Wed/Thur	11/29;11/30	Chapter 24		
17	Mon/Tue	12/4;12/5	Review Finals		
	Wed/Thur	12/6;12/7	FINALS		

*****Tentative, subject to change without prior notice*****

Required Text: Microbiology, An Introduction; Tortora. Funke and Case (13th Edition) ISBN 9780321802699

Lab Manual: Microbiology, Laboratory, Theory and Application; Michael Laboeffe and Burton Pierce (Brief Edition)

