



**BIOL 2421  
Microbiology  
Fall 2012  
Syllabus – Israel**

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<b><u>COURSE TITLE</u></b>	Microbiology
<b><u>COURSE NUMBER</u></b>	BIOL 2421
<b><u>CREDITS</u></b>	4 sch
<b><u>MODALITY</u></b>	Web-enhanced
<b><u>START/END DATE</u></b>	August 27 – December 14, 2012

<b><u>INSTRUCTOR</u></b>	Bonnie Israel
<b><u>PHONE NUMBER</u></b>	432.335.6560
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<b><u>OFFICE LOCATION</u></b>	Wilkerson Hall Room 106
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<b><u>OFFICE HOURS</u></b>	M, F	11:00am – 1:00 pm
	W	11:00am – 12:00pm
	T, TH	4:00pm – 5:30pm

**PRE-REQUISITES**

A minimum grade of “C” in BIOL 1406 and BIOL 1407; or BIOL 2401 and BIOL 2402; or CHEM 1311 and BIOL 1406 or BIOL 2401.

**TEXTS**

<b>Required</b>	Tortora, Funke, and Case. <u>Microbiology: An Introduction</u> . 11 <sup>th</sup> edition. Pearson Benjamin Cummings: 2013.
<b>Optional</b>	Leboffe and Pierce. <u>Microbiology: Laboratory Theory and Application</u> . 2 <sup>nd</sup> edition. Morton Publishing Company: 2006.

**COURSE FOCUS**

Students learn specific information and concepts in the classification, structure, cultivation and ecology of microorganisms. Students learn mathematical calculations of growth parameters and the effectiveness of chemotherapeutic agents. Students learn terminology, specific information and concepts of the relationships between microorganisms and human life. Cause and effect relationships between microbial growth and human disease, interpretation of symptomatic and laboratory information in diagnosis of disease, prevention of disease and treatment of disease are stressed. Lab fee required.

The instructor will use lectures, discussions, demonstrations, and experiments during lecture and lab to familiarize students with the topics discussed.

**COURSE OBJECTIVES**

1. Learn how microorganisms live and reproduce.
2. Learn the basic principles and techniques of genetic engineering.
3. Learn the principles and terminology of disease.
4. Learn how microorganisms cause disease.
5. Learn the basics and applications of immunology.
6. Learn the causes and treatments of communicable diseases of today.

**ICOs**

1, 2, 3, 4, 5, 6

## **COURSE EVALUATION**

### Lecture

Exams – 5	500 points (100 points each)
Final Exam (comprehensive)	200 points
Project/Paper	100 points

### Laboratory

Practical Exams – 4	200 points (50 points each)
Identification of Unknown Organism	100 points

## **GRADE DETERMINATION**

The lecture and laboratory performances are calculated to yield only one grade. The grade is calculated by adding the total number of points earned and dividing that number by the total number of points available (1100). This score will be multiplied by 100 to yield a percentage. This is the grade you will see on your “report card.”

The student may calculate where he stands at any point during the semester by performing the following calculations:

1. Add up how many points have been earned.
2. Add up how many possible points have been made available up until that time.
3. Divide earned points by possible points.
4. Multiply this number by 100.

## **GRADING SCALE**

90-100	A
80-89	B
70-79	C
60-69	D
Below 60	F

## **COURSE POLICIES**

1. Attendance/Tardiness Regular and punctual attendance is expected at Odessa College and is critical to academic success. In the rare event that a student is unavoidably detained, the student must discuss the reason for his tardiness with the instructor immediately following class. Students arriving late may be counted as absent from the class for that period. Chapter quizzes will be administered at the beginning of class. If a student is tardy or absent, he will not be given additional time to complete the quiz nor will a “make-up” quiz be offered.

In case of absence, it is the student's responsibility to contact the instructor. Students absent on official school business are entitled to make up school work missed, provided that documentation is sent to the instructor in a timely manner. However, the student is responsible for work missed, regardless of the cause of the absence. The student must discuss such work with the instructor and should do so immediately upon returning to school. Communication between the student and instructor is most important, and it is the student's responsibility to initiate such communication. If the student does not appear at the prearranged time for makeup work, he forfeits his right for further makeup of that work.

Withdrawal If a student is unable to complete a course in which he is registered, it is the student's responsibility to officially withdraw from the course prior to the appropriate date. Students are strongly encouraged to contact the instructor prior to withdrawing from the course, as knowledge of his class standing will allow the student to make an informed decision with regard to withdrawal. To withdraw from one or more courses at or prior to the withdrawal date of a semester or term, students must complete a withdrawal form in the Registrar's office. Until a student is officially withdrawn by the registrar, the student *remains on the class roll and may receive a grade of F for the course.*

2. Classroom Etiquette

- The use of any hand-held electronic device (e.g., cell phones, iPods, headphones, etc.) is absolutely not allowed. These devices should be turned off while in the classroom and lab.
- These devices are to be placed in a back-pack or purse (out of sight and mind). Disruption of the class by use of or noise from an electronic device will result in a verbal warning for the first violation. The second violation will result in a 10-point deduction from the next exam. Following the third violation, the student will not be allowed in class and will be sent to administration for disciplinary action.
- Class participation and discussion is strongly encouraged. However, discussion should be courteous and not conducted when the instructor or fellow students are talking. Constant disruptions will result in removal from the classroom, and the student will need to meet with the instructor during office hours prior to returning to class.
- Food and drinks are absolutely not allowed in the laboratories (OC policy).

- Exam grades will not be released verbally or electronically until a minimum of 24 hours has elapsed since the administration of the exam.
- Generally, assignments and exams will be scored and reviewed during the following class period.
- Odessa College policy requires that student grievances first be discussed with the instructor. Unresolved issues may then be discussed with the instructor's immediate supervisor.

3. Exams See Course Evaluation (above).

**ACADEMIC DISHONESTY WILL NOT BE TOLERATED.** Students caught cheating will be asked to leave the exam immediately, will receive a 0 for the exam, and will be subject to further disciplinary action. The submission of assignments that are not the student's original work (plagiarism) will be scored as a 0. Repeat offenses will result in removal from the course with a grade of "F".

**MAKE-UP EXAM POLICIES**

1. **Make-up exams will be administered at the discretion of the instructor and absolutely only in EXTREME circumstances.**
2. **Any request must be accompanied by written documentation confirming the reason for the absence. The student should contact the instructor prior to missing the exam when possible.**
3. **Each student will be allowed ONLY ONE make-up exam per semester, again only in extreme circumstances and at the discretion of the instructor as described above. The "one make-up exam" rule includes both lecture and lab exams. NO EXCEPTIONS.**
4. **Lecture exams** – If the instructor decides to provide a make-up exam, the exam will include oral questions and essays in addition to normal testing format and will be administered on the final day of the semester. **NO EXCEPTIONS.**
5. **Lab exams** – If it is known prior to a lab practical that it must be unavoidably missed, arrangements should be made to take the practical during another lab. After receiving the instructor's approval for this type of make-up exam, it is solely the student's responsibility to identify alternative lab times. Prior permission of all involved instructors must be obtained. Lab practicals must be taken during one of the regularly scheduled lab periods. **NO EXCEPTIONS.**
6. **In order to be eligible for any bonus and/or curve points added to lecture and laboratory exams, the student MUST have taken the exam with his course section at the regularly scheduled time. NO EXCEPTIONS.**
7. **There will be no make-up for the final exam, and the final must be taken at the assigned time. NO EXCEPTIONS.**

**THERE WILL BE NO EXTRA CREDIT PROJECTS!**

4. Tutoring on Campus

- Assistance with course material is available to students in all science classes in the **Synapse Lab** (WH 117). Work areas for studying, professional tutoring, computers with Internet access and printers, molecular models, etc. are available on first-come basis.
- The **Learning Resource Center** (Library) provides research assistance via the LRC's catalog (print books, videos, e-books) and databases (journal and magazine articles). Research guides covering specific subject areas, tutorials, and the "Ask a Librarian" service provide additional help.
- The Odessa College **Student Success Coaches** will help you stay focused and on track to complete your educational goals. If an instructor sees that you might need additional help or success coaching, he or she may submit a Retention Alert or a Starfish Alert. A Student Success Coach will contact you to work toward a solution.

5. Special Needs Odessa College complies with Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. If you have special needs or concerns pertaining to your access and participation in this or any other course at Odessa College, please do not hesitate to contact me. You may also call the Office of Disability Services at 432.335.6861 to request assistance and accommodations.

6. Student Email Please access your Odessa College student email by following this link to set up or update your account: <https://www.odessa.edu/gmail/>. **All communication will be submitted using your Odessa College email and through announcements posted to Blackboard.**

7. Technical Support For BlackBoard assistance, contact the Student Success Center at 432.335.6878 or online at [https://www.odessa.edu/dept/ssc/helpdesk\\_form.htm](https://www.odessa.edu/dept/ssc/helpdesk_form.htm).

8. Important School Policies Information regarding student support services, academic dishonesty, disciplinary actions, special accommodation, or students' and instructors' rights to academic freedom may be found in the Odessa College Student Handbook

The SEI process for face-to-face and online courses is scheduled for the week of November 26th.

### **Expectations for Engagement – Face to Face Learning**

To help make the learning experience fulfilling and rewarding, the following Expectations for Engagement provide the parameters for reasonable engagement between students and instructors for the learning environment. Students and instructors are welcome to exceed these requirements.

#### **Reasonable Expectations of Engagement for Instructors**

1. As an instructor, I understand the importance of clear, timely communication with my students. In order to maintain sufficient communication, I will
  - provided my contact information at the beginning of the syllabus;
  - respond to all messages in a timely manner through telephone, email, or next classroom contact; and,
  - notify students of any extended times that I will be unavailable and provide them with alternative contact information (for me or for my supervisor) in case of emergencies during the time I'm unavailable.
2. As an instructor, I understand that my students will work to the best of their abilities to fulfill the course requirements. In order to help them in this area, I will
  - provide clear information about grading policies and assignment requirements in the course syllabus, and
  - communicate any changes to assignments and/or to the course calendar to students as quickly as possible.
3. As an instructor, I understand that I need to provide regular, timely feedback to students about their performance in the course. To keep students informed about their progress, I will
  - return classroom activities and homework within one week of the due date and
  - provide grades for major assignments within 2 weeks of the due date or at least 3 days before the next major assignment is due, whichever comes first.

#### **Reasonable Expectations of Engagement for Students**

1. As a student, I understand that I am responsible for keeping up with the course. To help with this, I will
  - attend the course regularly and line up alternative transportation in case my primary means of transportation is unavailable;
  - recognize that the college provides free wi-fi, computer labs, and library resources during regular campus hours to help me with completing my assignments; and,
  - understand that my instructor does not have to accept my technical issues as a legitimate reason for late or missing work if my personal computer equipment or internet service is unreliable.
2. As a student, I understand that it is my responsibility to communicate quickly with the instructor any issue or emergency that will impact my involvement with or performance in the class. This includes, but is not limited to,
  - missing class when a major test is planned or a major assignment is due;
  - having trouble submitting assignments;
  - dealing with a traumatic personal event; and,
  - having my work or childcare schedule changed so that my classroom attendance is affected.
3. As a student, I understand that it is my responsibility to understand course material and requirements and to keep up with the course calendar. While my instructor is available for help and clarification, I will
  - seek out help from my instructor and/or from tutors;
  - ask questions if I don't understand; and,
  - attend class regularly to keep up with assignments and announcements.

**Students who habitually violate any of the above policies may be asked to withdraw from the course.**

**The instructor reserves the right to change any information contained in this document with adequate notice given to the student.**

## BIOL 2421\_Lecture Schedule\_Israel\_2012FA

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DATE		CHAPTER	TOPIC	DATE		CHAPTER	TOPIC
08.28	T		Syllabus and Intro	10.18	TH	20	Antimicrobial drugs
08.30	TH	1	The microbial world and you	10.23	T	20	Antimicrobial drugs
09.04	T	1	The microbial world and you	10.25	TH	EXAM	<b>EXAM 3: Chapters 7, 20</b>
09.06	TH	4	Functional anatomy: prokaryotes	10.30	T	8	Microbial genetics
09.11	T	4	Functional anatomy: eukaryotes	11.01	TH	8	Microbial genetics
09.13	TH	4	Functional anatomy: compared	11.06	T	9	Biotechnology and recombinant DNA
09.18	T	EXAM	<b>EXAM 1: Chapters 1, 4</b>	11.08	TH	14	Epidemiology
09.20	TH	2	Review: Exam 1 Chemical principles	11.13	T	EXAM	<b>EXAM 4: Chapters 8, 9, 14</b>
09.25	T	5	Microbial metabolism	11.15	TH	16-17	Review of Immunity
09.27	TH	5	Microbial metabolism	11.20	T	X	Thanksgiving Holiday
10.02	T	6	Microbial growth	11.22	TH	X	Thanksgiving Holiday
10.04	TH	6	Microbial growth	11.27	T	21-26	Selected diseases
10.09	T	EXAM	<b>EXAM 2: Chapters 2, 5, 6</b>	11.29	TH	21-26	Selected diseases
10.11	TH	7	Control of microbial growth	12.04	T	EXAM	<b>EXAM 5: Chapters 14, 16, 17, 21-26 (selected)</b>
10.16	T	7	Control of microbial growth	12.06	TH	X	<b>STUDENT PRESENTATIONS</b>
				12.13	TH	BIOL 2421.12013	<b>FINAL EXAM: Comprehensive 8:00am – 10:30am</b>
				12.13	TH	BIOL 2421.624	<b>FINAL EXAM: Comprehensive 6:00pm – 8:30pm</b>

## Important Dates to Remember

DATE	ITEM
09.03, M	Labor Day Holiday
11.14, W	Last Date to Withdraw
11.21-11.24	Thanksgiving Holiday
Week of 11.26	SEI
12.13, TH	Final Exam



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Microbiology  
Fall 2012  
Laboratory Schedule – Israel**

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DATE	TOPIC	NOTES
08.28	Introduction and Safety	
08.30	Exposure Plates	
09.04	Results; Microscope/Analysis of Environmental Samples	
09.06	Simple and Negative Stains	
09.11	Differential Stains	
09.13	Special Stains	
09.18	<b>PRACTICAL EXAM 1</b>	
09.20	Media Prep	
09.25	Inoculation of Media Using Aseptic Technique	
09.27	Results; Selective and Differential Media	
10.02	Results; Environmental Influences on Microbial Growth	
10.04	Results; Antiseptics and Antibiotics	Lab Report Due: Selective and Differential Media
10.09	Results; Review	
10.11	<b>PRACTICAL EXAM 2</b>	
10.16	Microbial Population Counts	
10.18	Transformation; Conjugation	
10.23	Results	
10.25	Plasmid Isolation	Lab Report Due: Transformation; Conjugation
10.30	Gel Electrophoresis	
11.01	<b>PRACTICAL EXAM 3</b>	
11.06	Epidemiology	
11.08	Results; Identification of Gram - Organisms	
11.13	Results; Identification of Gram + Organisms	
11.15	Results; Review	Lab Report Due: Gram - Identification
11.20	Thanksgiving Holiday	
11.22	Thanksgiving Holiday	
11.27	<b>PRACTICAL EXAM 4</b> ; Identification of Unknown Organism	
11.29	Identification of Unknown Organism	
12.04	Identification of Unknown Organism	
12.06	Identification of Unknown Organism	
12.11		<b>Unknown Organism Report Due: 12.11, Tuesday, 12pm</b>