

BIOL 2421.WB
Microbiology for Science Majors
Fall, 2011

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Start/End Date: August 22, 2011 – December 16, 2011

Modality: Web

Credits: 4 sch

Course Description: 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.

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.

Scans: 1, 3, 6, 9

Course goals: This course deals with microorganisms and how they cause disease. During this course, you will:

1. Learn the 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.

Textbooks:

Textbook: *Microbiology: An Introduction*, 9th ed., by Tortora, Funke, & Case

Access Code: Virtual Unknown

Special Information: Cheating or plagiarism will not be tolerated. If a student is suspected of cheating/plagiarism, they will be subject to being dropped from the course with a grade of “F”

Grading and evaluation:

Navigation Assignment	(10 pts)
Get Ready for Micro	(20 pts)
Five lecture exams	(500 pts)
Final exam	(200 pts)
Discussion Project	(100 pts)
Chapter Quizzes	(140 pts)
Four lab practicals	(200 pts)
Unknown Activities	(200 pts)
Flow Chart	(50 pts)
Post Lab Questions	(100 pts)

Grades will be based on a percentile scale. At the end of the semester, earned points will be divided by the total number of possible points and multiplied by 100 to give a final average percentile score.

A = 90 – 100%, B = 80 – 89%, C = 70 – 79%, D = 60 – 69%, F = Below 60%

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 any special needs or issues pertaining to your access to and participation in this or any other class at Odessa College, please feel free to contact me to discuss your concerns. You may also call the Office of Disability services at 432-335-6861 to request assistance and accommodations.

Learning Resource Center (Library): The Library, known as the Learning Resources Center, 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.

Student E-Mail: Please access your Odessa College student email by following the link to either set up or update your account: <https://www.odessa.edu/gmail/>. **All assignments or correspondence will be submitted using your Odessa College email.**

Technical Support: For Blackboard username and password help and for help accessing your online course availability or student email account contact the Student Success Center at 432-335-6878 or online at https://www.odessa.edu/dept/ssc/helpdesk_form.htm

Important School Policies: For information regarding student support services, academic dishonesty, disciplinary actions, special accommodations, or students' and

instructors' right to academic freedom can be found in the [Odessa College Student Handbook](#).

	Name	Type	Description	Due Date
Week 1	Introductions	Discussion	Get to know your fellow learners	08/28/11
	Navigation	Assignment	Learn to navigate the course	08/28/11
	Get Ready for Micro	Assignment	Learn and refresh basics	08/28/11
Week 2	Chapter 1: Microbial World & You	Study	Read chapter and watch Tegrity	09/04/11
	Chapter 1 Quiz	Quiz	Take quiz over Chapter 1	09/04/11
	Microscope Lab	Study	Refresh on using microscope	09/04/11
	Post Lab 1	Assignment	Submit answers	09/04/11
Week 3	Chapter 2: Chemical Principles	Study	Read chapter and watch Tegrity	09/11/11
	Chapter 2 Quiz	Quiz	Take quiz over Chapter 2	09/11/11
	Cell Morphology	Study	Watch Tegrity and study photos	09/11/11
	Virtual Unknown 1	Assignment	Submit results page	09/11/11
	Post Lab 2	Assignment	Submit answers	09/11/11
Week 4	Chapter 4: Functional Anatomy of Cells	Study	Read chapter and watch Tegrity	09/18/11
	Chapter 4 Quiz	Quiz	Take quiz over Chapter 4	09/18/11
	Stain Lab	Study	Watch Tegrity and study photos	09/18/11
	Post Lab 3	Assignment	Submit answers	09/18/11
Week 5	Chapter 14: Principles of Disease	Study	Read chapter and watch Tegrity	09/25/11
	Chapter 14 Quiz	Quiz	Take quiz over Chapter 14	09/25/11
	Pure Cultures/Environmental Culture	Study	Watch Tegrity and study photos	09/25/11
	Post Lab 4	Assignment	Submit answers	09/25/11
	Lecture Exam 1	Exam	Chapters 1, 2 and 4	09/25/11
Week 6	Chapter 15: Mechanism of Pathogenicity	Study	Read chapter and watch Tegrity	10/02/11
	Chapter 15 Quiz	Quiz	Take quiz over Chapter 15	10/02/11
	Haemophilus/Corynebacterium/Bordetella	Study	Watch Tegrity and study photos	10/02/11
	Post Lab 5	Assignment	Submit answers	10/02/11
	Lab Exam 1	Exam	Microscope, Stains, Cell Morphology & Colonies	10/02/11
Week 7	Chapter 5: Microbial Metabolism	Study	Read chapter and watch Tegrity	10/09/11
	Chapter 5 Quiz	Quiz	Take quiz over Chapter 5	10/09/11
	Primary Media Lab	Study	Watch Tegrity and study photos	10/09/11
	Virtual Unknown 2	Assignment	Submit results page	10/09/11
	Post Lab 6: Microbial Growth	Assignment	Submit answers	10/09/11
Week 8	Chapter 6: Microbial Growth	Study	Read chapter and watch Tegrity	10/16/11
	Chapter 6 Quiz	Quiz	Take quiz over Chapter 6	10/16/11
	Streptococcus Lab	Study	Watch Tegrity and study photos	10/16/11
	Virtual Unknown 3	Assignment	Submit results page	10/16/11
	Post Lab 7	Assignment	Submit answers	10/16/11
	Lecture Exam 2	Exam	Chapters 14, 15 and 5	10/16/11
Week 9	Chapter 8: Microbial Genetics	Study	Read chapter and watch Tegrity	10/23/11
	Chapter 8 Quiz	Quiz	Take quiz over Chapter 8	10/23/11
	Staphylococcus Lab	Study	Watch Tegrity and study photos	10/23/11
	Post Lab 8	Assignment	Submit answers	10/23/11
	Lab Exam 2	Exam	Haemophilus, Primary Media, Streptococcus, Staphylococcus	10/23/11
Week 10	Chapter 9: Biotechnology	Study	Read chapter and watch Tegrity	10/30/11
	Chapter 9 Quiz	Quiz	Take quiz over Chapter 9	10/30/11
	Flow Chart & Spirocheta Lab	Study	Watch Tegrity and study photos	10/30/11
	Virtual Unknown 4	Assignment	Submit results page	10/30/11
	Flow Chart & Spirocheta Lab	Assignment	Submit flow chart	10/30/11

Week 11	Chapter 10: Classification	Study	View the Tegrity	11/06/11
	Chapter 10 Quiz	Quiz	Take the quiz over Chapter 10	11/06/11
	Chapter 13: Viruses, Viroids & Prions	Study	Read chapter and watch Tegrity	11/06/11
	Chapter 13 Quiz	Quiz	Take the quiz over Chapter 13	11/06/11
	Urinary Tract Infection Lab	Study	View Tegrity	11/06/11
	Hepatitis Lab	Study	Study Handout	11/06/11
	Post Lab 10	Assignment	Submit results page	11/06/11
	Lecture Exam 3	Exam	Chapters 6, 8 and 9	11/13/11
	Name	Type	Description	Due Date
Week 12	Chapter 16: Innate Immunity	Study	Read chapter and watch Tegrity	11/13/11
	Chapter 16 Quiz	Quiz	Take the quiz over Chapter 16	11/13/11
	Enterics, Microscan & MIC Panel Lab	Study	Watch Tegrity and study photos	11/13/11
	Post Lab 11	Assignment	Submit answers	11/13/11
	Discussion Board Project	Project	Study various diseases	11/13/11
Week 13	Chapter 17: Specific Immunity	Study	Read chapter and watch Tegrity	11/20/11
	Chapter 17 Quiz	Quiz	Take the quiz over Chapter 17	11/20/11
	Protozoan Lab	Study	Study Handout and Photos	11/20/11
	Lecture Exam 4	Exam	Chapters 10, 13 and 16	11/20/11
Week 14	Lab Exam 3	Exam	Flow Chart, Urinary, Hepatitis, Microscan	11/27/11
	Thanksgiving	Holiday	Take a break or get ahead - Your choice	
Week 15	Chapter 18: Practical Apps. of Immunology	Study	Read chapter and watch Tegrity	12/04/11
	Chapter 18 Quiz	Quiz	Take the quiz over Chapter 18	12/04/11
	Chapter 19: Disorders of the Immune System	Study	Read chapter and watch Tegrity	12/04/11
	Chapter 19 Quiz	Quiz	Take the quiz over Chapter 19	12/04/11
	Fungi and Helminthes Lab	Study	Study Handout and Photos	12/04/11
Week 16	AIDS/STDs and Antimicrobials	Study	Study Handout	12/13/11
	Lab Exam 4: Protozoan, Fungi, Helminthes	Exam	Take last Lab exam	12/12/11
	Lecture Exam 5	Exam	Chapters 17 - 19	12/13/11
	Final Exam	Exam	Take Final Exam	12/15/11
			Includes AIDS/STDs and Antimicrobials	