

**BIOL 2421.WB**  
**Microbiology for Science Majors**  
**Summer, 2012**

**Instructor:** Donna Griffin  
**Office:** WH102C  
**Phone/voice mail:** 335-6533  
**Email address:** [dgriffin@odessa.edu](mailto:dgriffin@odessa.edu)

**Start/End Date:** June 4, 2012 – August 9, 2012

**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, 4, 5, 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*, 10<sup>th</sup> ed., by Tortora, Funke, & Case

**Access Code:** Virtual Unknown (Must be purchased from Internet)

Access Code: MasteringMicrobiology (in textbook package)

**Special Information:** Cheating or plagiarism will not be tolerated. This includes re-using documents from having previously taken the course. If a student is suspected of cheating/plagiarism, they will be subject to being dropped from the course with a grade of “F”

**BIOL 2421.WB**  
**Microbiology for Science Majors**  
**Summer, 2012**

**Grading and evaluation:**

Chapter Quizzes, Navigation and Get Ready = 5%  
Lecture Exams = 40%  
Virtual Unknown Assignments and Lab Reports = 5%  
Lab Exams = 20%  
Unknown Project = 5%  
Research Project = 5%  
Final Exam = 20%

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%

**Success Coaches:** 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.

**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.**

**BIOL 2421.WB**  
**Microbiology for Science Majors**  
**Summer, 2012**

**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](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 |
|-------------------------------------|--|------------|----------------|----------------------------------|----------|
| <b>Week 1</b>                       | Introductions                          | Discussion | GS             | Get to know your fellow learners | 6/9/12   |
|                                     | Navigation                             | Assignment | GS             | Learn to navigate the course     |          |
|                                     | Get Ready for Micro                    | Assignment | GS             | Refresh on basics                |          |
|                                     | Chapter 1: Microbial World & You       | Study      | Lec            | Read chapter & watch Tegrity     |          |
|                                     | Chapter 1 Quiz                         | Quiz       | Lec            | Take quiz over chapter 1         |          |
|                                     | Microscope Lab                         | Study      | Lab            | Refresh on using microscope      |          |
|                                     | Microscope Post Lab                    | Assignment | Lab            |                                  |          |
| <b>Week 2</b>                       | Chapter 2: Chemical Principles         | Study      | Lec            | Read chapter & watch Tegrity     | 6/16/12  |
|                                     | Chapter 2 Quiz                         | Quiz       | Lec            | Take quiz over chapter 2         |          |
|                                     | Chapter 4: Functional Anatomy of Cells | Study      | Lec            | Read chapter & watch Tegrity     |          |
|                                     | Chapter 4 Quiz                         | Quiz       | Lec            | Take quiz over chapter 4         |          |
|                                     | Aseptic Technique                      | Study      | Lab            | Learn to handle bacteria         |          |
|                                     | Aseptic Technique Post Lab             | Assignment | Lab            |                                  |          |
|                                     | Staining Procedures                    | Study      | Lab            | Learn the different stains       |          |
|                                     | Staining Post Lab                      | Assignment | Lab            |                                  |          |
| Lecture Exam 1: Chapters 1, 2 and 4 | Test                                   |            | See the review |                                  |          |
| <b>Week 3</b>                       | Chapter 14: Principles of Disease      | Study      | Lec            | Read chapter & watch Tegrity     | 6/23/12  |
|                                     | Chapter 14 Quiz                        | Quiz       | Lec            | Take quiz over chapter 14        |          |
|                                     | Chapter 15: Mechanism of Pathogenicity | Study      | Lec            | Read chapter & watch Tegrity     |          |
|                                     | Chapter 15 Quiz                        | Quiz       | Lec            | Take quiz over chapter 15        |          |
|                                     | Pure Culture/Environmental Cultures    | Study      | Lab            | Learn various streaking methods  |          |
|                                     | Colonial Morphology                    | Study      | Lab            | Learn about bacterial colonies   |          |
|                                     | Cultures Post Lab                      | Assignment | Lab            |                                  |          |
|                                     | Haemophilus/Corynebacterium/Bordetella | Study      | Lab            | Study the Handouts               |          |
|                                     | Haemophilus Post Lab                   | Assignment | Lab            |                                  |          |
|                                     | Virtual Unknown 1                      | Assignment | Lab            | Submit lab report                |          |
| Lab Exam 1: Microscope, Stains,     | Test                                   |            | See the review |                                  |          |
| <b>Week 4</b>                       | Chapter 5: Microbial Metabolism        | Study      | Lec            | Read chapter & watch Tegrity     | 6/30/12  |
|                                     | Chapter 5 Quiz                         | Quiz       | Lec            | Take quiz over chapter 5         |          |
|                                     | Chapter 6: Microbial Growth            | Study      | Lec            | Read chapter & watch Tegrity     |          |
|                                     | Chapter 6 Quiz                         | Quiz       | Lec            | Take quiz over chapter 6         |          |
|                                     | Primary Media Lab                      | Study      | Lab            | Learn to identify bacteria       |          |
|                                     | Primary Media Post Lab                 | Assignment | Lab            |                                  |          |
|                                     | Virtual Unknown 2                      | Assignment | Lab            | Submit lab report                |          |
| <b>Week 5</b>                       | Chapter 8: Microbial Genetics          | Study      | Lec            | Read chapter & watch Tegrity     | 7/7/12   |
|                                     | Chapter 8 Quiz                         | Quiz       | Lec            | Take quiz over chapter 8         |          |
|                                     | Streptococcus/Staphylococcus Lab       | Study      | Lab            | Learn about these genera         |          |
|                                     | Strep and Staph Post Lab               | Assignment | Lab            |                                  |          |
|                                     | Lecture Exam 2: Chapters 14, 15 and 5  | Test       |                | See the review                   |          |
| <b>Week 6</b>                       | Chapter 9: Biotechnology               | Study      | Lec            | Read chapter & watch Tegrity     | 7/14/12  |
|                                     | Chapter 9 Quiz                         | Quiz       | Lec            | Take quiz over chapter 9         |          |
|                                     | Chapter 10: Classification             | Study      | Lec            | Read chapter & watch Tegrity     |          |

**BIOL 2421.WB**  
**Microbiology for Science Majors**  
**Summer, 2012**

|                |  |            |     |                              |         |
|----------------|--|------------|-----|------------------------------|---------|
|                | Chapter 10 Quiz  | Quiz       | Lec | Take quiz over chapter 10    |         |
|                | Spirochete Lab   | Study      | Lab | Learn about spirochetes      |         |
|                | Spirochete Post Lab  | Assignment | Lab |                              |         |
|                | Virtual Unknown 3  | Assignment | Lab | Submit lab report            |         |
|                | Lab Exam 2: Haemophilus, Corynebacterium, Bordetella, Primary Media, Staph and Strep | Test       |     | See the review               |         |
| <b>Week 7</b>  | Chapter 13: Viruses, Viroids & Prions  | Study      | Lec | Read chapter & watch Tegrity | 7/21/12 |
|                | Chapter 13 Quiz  | Quiz       | Lec | Take quiz over chapter 13    |         |
|                | Urinary Tract Infection  | Study      | lab | Learn about common UTIs      |         |
|                | Hepatitis Lab  | Study      | Lab | Learn types of hepatitis     |         |
|                | UTI and Hepatitis Post Lab   | Assignment | Lab |                              |         |
|                | Virtual Unknown 4  | Assignment | Lab | Submit lab report            |         |
|                | Lecture Exam 3: Chapters 6, 8 and 9  | Test       |     | See the review               |         |
| <b>Week 8</b>  | Chapter 16: Innate Immunity  | Study      | Lec | Read chapter & watch Tegrity | 7/28/12 |
|                | Chapter 16 Quiz  | Quiz       | Lec | Take quiz over chapter 16    |         |
|                | Chapter 17: Specific Immunity  | Study      | Lec | Read chapter & watch Tegrity |         |
|                | Chapter 17 Quiz  | Quiz       | Lec | Take quiz over chapter 17    |         |
|                | Enterics, Microscan & MIC Panel Lab  | Study      | Lab | Learn modern identification  |         |
|                | Enterics Post Lab  | Assignment | Lab |                              |         |
|                | Protozoan and Helminthes Lab   | Study      | Lab | Learn common parasites       |         |
|                | Lecture Exam 4: Chapters 10, 13 and 16   | Test       |     | See the review               |         |
| <b>Week 9</b>  | Chapter 18: Practical Apps. Of Immunology  | Study      | Lec | Read chapter & watch Tegrity | 8/4/12  |
|                | Chapter 18 Quiz  | Quiz       | Lec | Take quiz over chapter 18    |         |
|                | Chapter 19: Disorders of the Immune System   | Study      | Lec | Read chapter & watch Tegrity |         |
|                | Chapter 19 Quiz  | Quiz       | Lec | Take quiz over chapter 19    |         |
|                | Fungi Lab  | Study      | Lab | Common fungi                 |         |
|                | Lab Exam 4: Protozoan, Fungi, Helminthes   | Test       |     | See the review               |         |
| <b>Week 10</b> | Lecture Exam 5: Chapters 17 - 19   | Test       |     | See the review               | 8/9/12  |
|                | AIDS/STDs and Antimicrobials   | Study      |     | Study handouts for final     |         |
|                | Final Exam   | Test       |     | Use previous reviews         |         |