BIOL-2 Syllabus and Course Schedule

Syllabus for BIOL-2 (Microbiology)

Course Information:

- Semester & Year: Fall 2022
- Course ID & Section #: Biol-8 V4375
- Instructor's name: Christopher Callahan
- Day/Time: Online
- Location: Online
- Number of units: 4.0

Instructor Contact Information

- Office location: Online
- Office hours: Tues 2pm on Zoom or by appointment
- Phone number: 707-465-2379
- Email address: christopher-callahan@redwoods.edu

Required Materials

- Textbook Title: OpenStax College Microbiology
- Edition: 1e
- Author: OpenStax College
- ISBN: N/A
- Other requirements: Microbiology Lab Kit ($152 + Tax & Shipping)

Catalog Description

A study of microorganisms including anatomy, physiology, genetics, and ecological importance. Emphasis will be on the role of microorganisms in disease and the mechanisms of microbe/host interactions. Laboratory work emphasizes the importance of aseptic techniques, methods of microbial control, and procedures for isolating, culturing microbes, and identifying microorganisms.

Course Student Learning Outcomes

1. Describe the anatomy, physiology and biochemistry of microorganisms and the consequential effects of various environmental factors upon them.
2. Know the causative organism of the more common human diseases and the physiological effect of the drugs most commonly used in the fight against these diseases.
3. Describe the principles and applications of genetic engineering and the role that microorganisms are playing in this process.

Evaluation & Grading Policy

Assignment		**Points**
Lecture Exams	3 exams @ 100 points each	300
Syllabus Quiz	must be completed by 8/23	5
Lab Safety Quiz	must be completed by 10/17	5
Signed Lab Waiver	must be completed by 10/17	5
Chapter Quiz	12 quizzes @ 10 points each	120
Dry Lab Activities	7 activities @ 15 pts each	105
Wet Lab Activities	6 activities @ 15 pts each	90
Bergey's Activity		10
Discussion Board	6 discussions @ 10 pts each	60
Unknown Report		100
	Total Points Attainable:	**800**

If you receive 95-100% of total points you will receive an A; 90 to 94% earns an A-; 87-89% earns a B+; 84-86% earns a B; 80-83% earns a B-; 75-79 earns a C+; 70-74 earns a C; 60-69% earns a D; and 59% or below earns an F. There is no ‘curving’ or extra credit opportunities for missed work.

Prerequisites/co-requisites/ Recommended Preparation

Prerequisite: BIOL-1 or BIOL 3

Pre- or Co-requisite: CHEM-1A or CHEM-2

Student Feedback Policy

All work will be graded within two weeks of submission for evaluation. Grades will be posted on Canvas and will not be communicated through email. If you would like to discuss grades you'll have to set up a Zoom appointment with me.

Institutional Policies

Accessibility

Students will have access to online course materials that comply with the Americans with Disabilities Act of 1990 (ADA), Section 508 of the Rehabilitation Act of 1973, and College of the Redwoods policies. Students who discover access issues with this class should contact the instructor.

College of the Redwoods is also committed to making reasonable accommodations for qualified students with disabilities. If you have a disability or believe you might benefit from disability-related services and accommodations, please contact your instructor or **Disability Services and Programs for Students (http://www.redwoods.edu/dsps)** (DSPS). Students may make requests for alternative media by contacting DSPS based on their campus location:

- Eureka: 707-476-4280, student services building, 1st floor
- Del Norte: 707-465-2324, main building near library
- Klamath-Trinity: 530-625-4821 Ext 103

During COVID19, approved accommodations for distance education classes will be emailed to the instructor by DSPS. In the case of face to face instruction, please present your written accommodation request to your instructor at least one week before the first test so that necessary arrangements can be made. Last-minute arrangements or post-test adjustments cannot usually be accommodated.

Support for online learners during COVID-19

In response to COVID-19, College of the Redwoods moved the majority of its courses online to protect health and safety. As the faculty and students adjust to this change, clear communication about student needs will help everyone be successful. Please let me know about any specific challenges or technology limitations that might affect your participation in class. I want every student to thrive.

Admissions deadlines & enrollment policies

Spring 2022 Dates

- *Classes begin: 8/20/22*
- *Last day to add a class: 8/26/22*
- *Last day to drop without a W and receive a refund: 9/02/22*
- *Labor Day Holiday (all campuses closed): 09/05/22*
- *Census date: 9/06/22 or 20% into class duration*
- *Last day to petition to file P/NP option: 09/16/22*
- *Last day to petition to graduate or apply for certificate: 10/27/22*
- *Last day for student-initiated W (no refund): 10/28/22*
- *Last day for faculty-initiated W (no refund): 10/28/22*
- *Veteran's Day (all campuses closed): 11/11/22*
- *Fall Break (no classes): 11/21/22 – 11/25/22*
- *Thanksgiving Holiday (all campuses closed): 11/23/22 – 11/25/22*
- *Final examinations: 12/10/22 – 12/16/22*
- *Semester ends: 12/16/22*
- *Grades available for transcript release: approximately 01/06/23*

Students who have experienced extenuating circumstances can complete & submit the ***Excused Withdrawal Petition*** to request an Excused Withdrawal (EW) grade instead of the current Withdrawal (W) or non-passing (D, F & NP) grades. The EW Petition is available from the Admissions and Records Forms Webpage. Supporting documentation is required.

Academic dishonesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. In cases involving academic dishonesty, determination of the grade and of the student's status in the course is left primarily to the discretion of the faculty member. In such cases, where the instructor determines that a student has demonstrated academic dishonesty, the student may receive a failing grade for the assignment and/or exam and may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct (**AP 5500 (https://redwoods.instructure.com/courses/15553/pages/student-code-of-conduct-and-disciplinary-procedures?module_item_id=655013)**) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the **College Catalog (https://www.redwoods.edu/catalog)** and on the **College of the Redwoods website (https://www.boarddocs.com/ca/redwoods/Board.nsf/Public?open&id=policies)** .

Disruptive behavior

Student behavior or speech that disrupts the instructional setting will not be tolerated. Disruptive conduct may include, but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process, a disruptive student may be temporarily removed from class. In addition, the student may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct (**AP 5500 (https://redwoods.instructure.com/courses/15553/pages/student-code-of-conduct-and-disciplinary-procedures?module_item_id=655013)**) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the **College Catalog (https://www.redwoods.edu/catalog)** and on the **College of the Redwoods website (https://www.boarddocs.com/ca/redwoods/Board.nsf/Public?open&id=policies)**

Policies for this Class

Class participation

Lecture and lab are intimately interrelated. The topics you learn about in lecture you see in lab, usually that very week. Labs are divided into "dry" and "wet" labs. Dry labs will be online or virtual activities. Wet labs will actually be "hands-on" activities working with real bacteria. You are assigned specific exercises in your lab handouts to complete and are expected to answer all questions and make all observations and drawings on extra paper. You will also need to submit selfies and/or video recordings of you doing the wet lab activities.

Lecture Exams: There are three lecture exams including the lecture final. Exams are not comprehensive and will only cover new material.

Weekly Chapter Quizzes: Each week you will take a quiz covering that week's lecture material. We will not have a quiz on the week we take a lecture exam.

Discussion Board: There are a total of 6 discussion board topics. You will be required to make an initial post by Friday at midnight of that week. You then will respond to at least two of your fellow classmates by the following Monday at midnight. There are no make ups if you miss the discussion board.

Unknown Report: You will be given an unknown bacterial species that you will systematically identify to species based on the lab skills learned this semester. You will submit your findings at the end of the semester in a report. More details will be given in lab.

Misc Assignments: There may be misc assignments given throughout the semester.

Attendance Policy

This is an online class and as such you have the freedom to choose when you engage with course content, however, there are strict deadlines on when assignments will be due. This is not a self-paced course and you will have assignments due each week. You must complete assignments on time. No late assignments will be accepted and no extra credit opportunities will be given.

Academic Integrity and Honor Pledge

As a College of the Redwoods student enrolled in an online class you are expected to conduct yourself with integrity. Please review the **Academic Integrity (https://redwoods.instructure.com/courses/15553/pages/academic-integrity?module_item_id=655014)** page and then complete the **Syllabus Quiz (https://redwoods.instructure.com/courses/15553/quizzes/81305?module_item_id=655016)** by Tuesday, January 19th at midnight.

Information for this Class

Recommended textbooks & other materials

All textbooks will be provided to you for free. You will be required to purchase a lab kit from Carolina Biological for $152 in order to meet the course learning objectives for this course. You will need to have the lab kit purchased and in your possession by October 11th. Please refer to the **Online Orientation Letter (https://redwoods.instructure.com/courses/15553/pages/biol-2-online-orientation-letter)** for more details

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Preferred Name in Canvas

Students have the ability to have an alternate first name and pronouns to appear in Canvas. Contact **Admissions & Records (https://www.redwoods.edu/admissions/Forms)** to request a change to your preferred first name and pronoun. Your Preferred Name will only be listed in Canvas. It does not change your legal name in our records. See the **Student Information Update form (https://www.redwoods.edu/Portals/28/A.R.Forms.Docs/Miscellaneous/Student%20Information%20Update.pdf)** .

Canvas Information

Please see **Online Orientation Letter** (https://redwoods.instructure.com/courses/15553/pages/biol-2-online-orientation-letter) for more information

- Log into Canvas at **https://redwoods.instructure.com** (https://redwoods.instructure.com/)
- Password is your 8 digit birth date
- For tech help, email **its@redwoods.edu** (mailto:its@redwoods.edu) or call 707-476-4160

Technology skills, requirements, and support

Please see **Online Orientation Letter** (https://redwoods.instructure.com/courses/15553/pages/biol-2-online-orientation-letter) for more information

- Tech equipment and skills are required for student success, and of equal importance as required textbooks and materials.
- Students can obtain a free **Office 365 license** (https://www.redwoods.edu/Services/Office365) (includes Word, Excel, PowerPoint and more) with a valid CR email.
- Before contacting Technical Support please visit the **Online Support Page** (http://www.redwoods.edu/online/Help) .
- For password issues with Canvas, Web Advisor or your mycr.redwoods.edu email, contact **its@redwoods.edu** (mailto:its@redwoods.edu) or call 707-476-4160 or 800-641-0400 ext. 4160 between 8:00 A.M. and 4:00 P.M., Monday through Friday.

Student Support Services

The following online resources are available to support your success as a student:

- **CR-Online** (http://www.redwoods.edu/online) (Comprehensive information for online students)
- **Library Articles & Databases** (https://redwoods.libguides.com/az.php)
- **Canvas help and tutorials** (http://www.redwoods.edu/online/Canvas)
- **Online Student Handbook** (http://www.redwoods.edu/Portals/72/Documents/Students/CR-OnlineStudentHandbook.pdf)

Counseling and Advising (http://www.redwoods.edu/counseling/) offers academic support and includes academic advising and educational planning

Learning Resource Center includes the following resources for students:

- **Academic Support Center** (http://www.redwoods.edu/asc) for instructional support, tutoring, and learning resources.

- **Library Services** (https://www.redwoods.edu/library) to promote information literacy and provide organized information resources.
- Multicultural & Diversity Center
- Math Lab & Drop-in Writing Center

Special programs are also available for eligible students include

  - **Extended Opportunity Programs & Services (EOPS)** (http://www.redwoods.edu/eops) provides financial assistance, support and encouragement for eligible income disadvantaged students at all CR locations.
  - The TRiO Student Success Program provides eligible students with a variety of services including trips to 4-year universities, career assessments, and peer mentoring. Students can apply for the program in **Eureka** (https://www.redwoods.edu/trio/eureka) or in **Del Norte** (https://www.redwoods.edu/delnorte/TRiO)
  - The **Veteran's Resource Center** (https://www.redwoods.edu/vets) supports and facilitates academic success for Active Duty Military, Veterans and Dependents attending CR through relational advising, mentorship, transitional assistance, and coordination of military and Veteran-specific resources.

- Klamath-Trinity students can contact the CR KT Office for specific information about student support services at 530-625-4821
- The **Honors Program** (https://www.redwoods.edu/Honors/) helps students succeed in transferring to a competitive four-year school.

Community College Student Health and Wellness

- Resources, tools, and trainings regarding health, mental health, wellness, basic needs and more designed for California community college students, faculty and staff are available on the California Community Colleges **Health & Wellness website** (https://www.cccstudentmentalhealth.org/health-wellness-for-students/).
- **Wellness Central** (https://ccconlineed.instructure.com/courses/1895?cf_id=2248) is a free online health and wellness resource that is available 24/7 in your space at your pace.
- Students seeking to request a counseling appointment for academic advising or general counseling can email **counseling@redwoods.edu** (mailto:counseling@redwoods.edu).

Emergency procedures / Everbridge

College of the Redwoods has implemented an emergency alert system called Everbridge. In the event of an emergency on campus you will receive an alert through your personal email and/or phones. Registration is not necessary in order to receive emergency alerts. Check to make sure your

contact information is up-to-date by logging into WebAdvisor **https://webadvisor.redwoods.edu (https://webadvisor.redwoods.edu)** and selecting 'Students' then 'Academic Profile' then 'Current Information Update.'

Please contact Public Safety at 707-476-4112 or **security@redwoods.edu (mailto:security@redwoods.edu)** if you have any questions. For more information see the **Redwoods Public Safety Page (https://www.redwoods.edu/publicsafety)** .

In an emergency that requires an evacuation of the building anywhere in the District:

- Be aware of all marked exits from your area and building
- Once outside, move to the nearest evacuation point outside your building
- Keep streets and walkways clear for emergency vehicles and personnel

Do not leave campus, unless it has been deemed safe by the campus authorities.

Course Schedule

Each week a new learning topic will be available in the course modules. Topics are arranged by lecture exam (5 topics per exam). Each week will begin on Tuesday and end the following Monday at midnight. This schedule is subject to change with fair notice.

Week	Begin Date Tuesday	End Date Monday	Lecture Topic
1	August 23, 2022	August 29, 2022	Topic 1: Intro to Microbiology Chapter 1 **Dry Lab 1: Media, Aseptic Technique, Colony Isolation**
2	August 30, 2022	September 5, 2022	**Labor Day Holiday - Reduced work week** Topic 2: Cell Theory Chapter 3 **Dry Lab 2: Ubiquity of Microorganisms,**

			Growth Characteristics
3	September 6, 2022	September 12, 2022	Topic 3: Eukaryotes Chapter 3 & 6 **Dry Lab 3: Unknowns and Staining Techniques**
4	September 13, 2022	September 19, 2022	Topic 4: Pathogens Chapter 5 **Dry Lab 4: Environmental Factors Influencing Growth**
5	September 20, 2022	September 26, 2022	Topic 5: Microbial Biochemistry Chapter 7 **Dry Lab 5: Selective and Differential Media I**
6	September 27, 2022	October 3, 2022	**Lecture Exam I** Topic 6: Microbial Metabolism Chapter 8 **Dry Lab 6: Differential Media II**
7	October 4, 2022	October 10, 2022	Topic 7: Microbial Growth & Bacterial Diversity Chapters 4 & 9

			Dry Lab 7: Differential Media III
8	October 11, 20221	October 17, 2022	Topic 8: Microbial Genetics Chapter 11 **Wet Lab 1: Lab Safety Plan**
9	October 18, 2022	October 24, 2022	Topic 9: Molecular Biology Techniques Chapter 12 **Wet Lab 2: Aseptic Technique and Use of Media**
10	October 25, 2022	October 31, 2022	Topic 10: Control of Microbial Growth Chapter 13 **Wet Lab 3: Isolation Streak Plate Technique**
11	November 1, 2022	November 7, 2022	**Lecture Exam II** Topic 11: Antimicrobial Drugs Chapter 14 **Wet Lab 4: Use of Selective and Differential Media**
12	November 8, 2022	November 14, 2022	**Veteran's Day Holiday - Reduced work week** Topic 12: The Unknown

			Wet Lab 5: Biochemical Tests in Microbiology
13	November 15, 2022	November 21, 2022	Topic 13: Antibiotic Resistance/ Pathogenicity Chapter 15 **Wet Lab 6: Kirby-Bauer Method**
14	**November 22, 2022**	**November 28, 2022**	**Thanksgiving Break -- No Class this week**
15	November 29, 2022	December 5, 2022	Topic 14: Disease and Epidemiology/ Innate Immunity Chapter 16 & 17 **No Lab Activity - Work on Unknown Project**
16	December 6, 2022	December 12, 2022	**Unknown Report Due** Topic 15: Adaptive Immunity Chapter 18 **No Lab Activity**
17	December 13, 2022	December 16, 2022	**Final Lecture Exam**