COLLEGE OF THE REDWOODS

Syllabus for BIOL-2-E4949

Course Information

Semester & Year:	Spring 2023
Course ID & Section #:	BIOL-2-E4949
Instructors' names:	Julie Kelly
Course units:	4
Lecture (Face-to-Face):	Monday and Wednesday from 11:40 am - 12:45 pm
Lab (Face-to-face):	Tuesday and Thursday from 10:00 am - 1:10 pm

Instructor Contact Information

Julie Kelly is the instructor for lecture and lab.

Office hours:	One-on-one meeting by arrangement
Email address:	julie-kelly@redwoods.edu

Study Sessions (optional)
Where: Science Bldg, Room SC 104
When: To be determined

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 *(from course outline of record)*

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.

Prerequisites/co-requisites/ recommended preparation

Prerequisite: BIOL-1 or BIOL-3 with a minimum grade of "C".
Co-requisite: Concurrent enrollment in (or completion of) either CHEM-1A or CHEM-2.

Accessibility

College of the Redwoods is 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 (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

Student Support

Clear communication about your needs will help you be successful. Please let me know about any specific challenges or technology limitations that might affect your participation in class. College of the Redwoods wants every student to be successful.

Evaluation & Grading Policy

This is a grade only course. Your final grade in this course will be based on tests and assignments in lecture and lab.
Assignments are weighted by group:

- There will be 3 lecture exams, and a *cumulative* final exam. (30%)
  Regular lecture exams are not cumulative *per se* but material will sometimes build on previously presented information. The final lecture exam will include information from the entire semester.

- Lecture participation. (5%)

- Lecture discussions for every lecture. (5%)

- There will also be 3 lab exams. (20%)
  You will be tested on lab information and techniques.

- Laboratory Exercise Reports (22%)

- Pre-lab reading assignments. (5%)

- Unknown Bacteria Report. (13%)

Letter Grades

I will use the following scale to determine the letter grade you earn in my class.

100 – 93% = A	89.9 – 87% = B+	79.9 – 77% = C+	69.9 – 60% = D
92.9 – 90% = A-	86.9 – 83% = B	76.9 – 70% = C	< 59.9% = F
	82.9 – 80% = B-		

Admissions deadlines & enrollment policies

Spring 2023 Dates

- *Classes begin: 01/14/23*
- *Martin Luther King's Birthday (all campuses closed): 01/16/23*
- *Last day to add a class: 01/20/23*
- *Last day to drop without a W and receive a refund: 01/27/23*
- *Census date: 01/30/23 or 20% into class duration*
- *Last day to petition to file P/NP option: 02/10/23*
- *Lincoln's Birthday (all campuses closed): 02/17/23*
- *President's Day (all campuses closed): 02/20/23*
- *Last day to petition to graduate or apply for certificate: 03/02/23*
- *Spring Break (no classes): 03/13/23 – 03/18/23*
- *Last day for student-initiated W (no refund): 03/31/23*
- *Last day for faculty-initiated W (no refund): 03/31/23*
- *Final examinations: 05/06/23 – 05/12/23*
- *Commencement: 05/15/23*
- *Semester ends: 05/12/23*
- *Grades available for transcript release: approximately 05/26/23*

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) 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 and on the College of the Redwoods website.

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) 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 and on the College of the Redwoods website.

Inclusive Language in the Classroom

College of the Redwoods aspires to create a learning environment in which all people feel comfortable in contributing their perspectives to classroom discussions. It therefore encourages instructors and students to use language that is inclusive and respectful.

Setting Your Preferred Name in Canvas

Students have the ability to have an alternate first name and pronouns to appear in Canvas. Contact Admissions & Records to request a change to your preferred first name and pronoun. Your Preferred Name will only be listed in Canvas. This does not change your legal name in our records. See the Student Information Update form.

Canvas Information

Log into Canvas at https://redwoods.instructure.com
Password is your 8-digit birth date
For help with Canvas once you're logged in, click on the Help icon on the left menu.
For tech help, email its@redwoods.edu or call 707-476-4160
Canvas online orientation workshop: Canvas Student Orientation Course (instructure.com)

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.

Wellness Central 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.

Emergency procedures / Emergency Alert System (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 and selecting 'Students' then 'Academic Profile' then 'Current Information Update.'

Please contact Public Safety at 707-476-4112 or security@redwoods.edu if you have any questions. For more information see the Redwoods Public Safety Page.

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.

Eureka Campus Emergency Procedures

Please review the campus emergency map for evacuation sites, including the closest site to this classroom (posted by the exit of each room). For more information on Public Safety go to the Redwoods Public Safety Page It is the responsibility of College of the Redwoods to protect life and property from the effects of emergencies within its own jurisdiction.

In the event of an emergency:

1. Evaluate the impact the emergency has on your activity/operation and take appropriate action.
2. Dial 911, to notify local agency support such as law enforcement or fire services.
3. Notify Public Safety 707-476-4111 and inform them of the situation, with as much relevant information as possible.
4. Public Safety shall relay threat information, warnings, and alerts through the Everbridge emergency alert system, Public address system, and when possible, updates on the college website, to ensure the school community is notified.
5. Follow established procedures for the specific emergency as outlined in the College of the Redwoods Emergency Procedure Booklet, (evacuation to a safe zone, shelter in place, lockdown, assist others, if possible, cooperate with First Responders, etc.).
6. If safe to do so, notify key administrators, departments, and personnel.
7. Do not leave campus, unless it is necessary to preserve life and/or has been deemed safe by the person in command.

Student Support Services

Food pantry

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

- CR-Online (Comprehensive information for online students)
- Library Articles & Databases
- Canvas help and tutorials
- Online Student Handbook
- Online Tutoring Resources

Counseling offers assistance to students in need of professional counseling services such as crisis counseling.

Learning Resource Center includes the following resources for all students

- Academic Support Center for instructional support, tutoring, learning resources, and proctored exams. Includes the Math Lab & Drop-in Writing Center

1. Library Services to promote information literacy and provide organized information resources.
    - CR's Laptop Lending Library
2. Multicultural & Diversity Center
3. Student Tech Help – provides students with assistance around a variety of tech problems.

Special programs are also available for eligible students include

- Extended Opportunity Programs & Services (EOPS) provides services to eligible income disadvantaged students including: textbook award, career academic and personal counseling, school supplies, transportation assistance, tutoring, laptop, calculator and textbook loans, priority registration, graduation cap and gown, workshops, and more!
- 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 or in Del Norte
- The Veteran's Resource Center 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.
- CalWORKS – assists student parents with children under the age of 18, who are receiving cash assistance (TANF), to become self-sufficient.
- Klamath-Trinity students can contact the CR KT Office for specific information about student support services at 530-625-4821

Policies for Microbiology

Our contract
This syllabus is a contract between us.

My assumptions about you
- You are here to learn, and you are motivated to truly master the content.
- You understand that you are responsible for your own learning. The degree to which you LEARN the content is entirely up to YOU and the time you are willing and able to put into the class.
- You will regularly check email, Canvas Announcements, Canvas Discussions, and Canvas Assignment Feedback for communications about this class.

Your assumptions about me
- I am fully committed to helping you learn about microbiology.
- I will offer prompt and valuable feedback to guide your progress.
- I will provide engaging, relevant, and creative activities to help you master the course content.
- I will provide regular communication about this class through email, Canvas Announcements, Canvas Discussions, and Canvas Assignment Feedback.

Exams, Unknown report, and Lab Reports:

Lecture Exams
- Lecture exams will be taken during the lecture class time.
- There will be 3 Lecture Midterm Exams and 1 Final Lecture Exam.

- Lecture Exams will include (not limited to) multiple choice, matching, true/false, short answer questions, and one Thought Question.
- **Thought Question** topics will be assigned one week before the lecture exam. Topics will be assigned in the Study Guide in the Canvas Announcements. The thought question should be researched and written out ahead of time. The Thought Question answer will then be written onto the Lecture Exam without notes.

1. Students are responsible for the detail covered during lecture. You may also read the textbook to gain the content in this class. However, the textbook covers many topics in much more detail than we have time for in this class.

- You can also use online sources to review the material covered in lecture and lab. However, online sources could provide less detail or way too much detail than is required for this class.
- **The final lecture exam in this course is cumulative as it will include material covered throughout the semester.**
- The Final Lecture Exam is optional. You can use it to replace one of the Lecture Midterm Exams.

Lab Exams

- Lab exams will be taken during the lab class time.
- There will be 3 lab exams.

Final Unknown Report.

- During the course of this semester, you will identify an Unknown Bacteria Species.
- You will watch videos, perform various morphological and biochemical tests, and view photographs of various results from biochemical tests to determine physiological characteristics of a pure culture of an unknown bacteria species with the purpose of identifying it.
- All data collected about the "unknown bacteria species" will be recorded on an Unknown Descriptive Chart.
- By comparing the characteristics of your Unknown bacteria with the published characteristics of known bacteria, you will be able to confidently identify your bacteria!
- You will write a Final Unknown Bacteria Report emphasizing the logical "process of elimination" used to eliminate 14 of 15 possible candidates, leaving just one possible candidate.
- Included in the report will be a flowchart indicating how you made your conclusion about the identification of the bacteria and a comparison of your unknown's results to the published results in the Bergey's manual.
- ***All components must be typed. The final paper must be saved as a PDF file or Word document and submitted through Canvas.***
- ***Turnitin, an antiplagiarism analysis tool, will be used on the Unknown Bacteria Final Report submission page in Canvas.***

Lab Reports. Each student will complete lab reports for each test done with their Unknown bacteria species. The lab report will include recorded data and answers to questions. I encourage students to work on the lab reports together, but your answers must be in your own writing. Your written lab report must be your own original work.

It is considered cheating for any 2 or more people to have exactly the same answers for any portion of a lab report. If an answer comes directly from the lab manual or other text, then you **must** cite the title, author, and page number of the source of your answer. If the answers on lab reports for two students are the same, both students will get a **zero** on their reports.

Late Assignments: Lab reports will be docked 1/2 points per day (including weekends).

One lab report will be dropped and will not be considered in the final grade total calculation.

Class participation and Attendance policy

Lab Exercise Grading Rubric				
Criteria	Ratings			Pts
All data recorded and questions answered in full	Full **2 points**	Some data missing or parts of some questions unanswered **1 pts**	2 or more questions left blank **0 pts**	2
Points based on accuracy	No more than 1 minor error **2 pts**	No more than 3 minor errors **1 pts**	4 or more errors **0 pts**	2
			Total	4

All of us in the class, you, me, your peers, have a responsibility to create an environment in which we can all learn from each other. I expect everyone to participate in class so that we can all benefit from the insights and experiences that each person brings.

1. Students will participate in **lecture activities** to help students understand the lecture material.
    - During lectures students will earn participation points by answering questions about the lecture material.
    - After lectures students will participate in online Canvas discussions.
    - Two lecture activities and 2 lecture discussions will be dropped and will not be considered in the total calculation of the final grade.
2. If circumstances make you miss more than 4 **lab assignments** (two weeks' worth of labs) during the semester, you may be overextended. I ask that you contact me to discuss your options.
3. I will consider your participation in lecture discussions and activities (i.e. good attendance) for borderline grades.

MAKE-UP EXAMS ARE ONLY OFFERED WITH A WRITTEN MEDICAL EXCUSE and must be taken within one week of the scheduled exam. Make-up exams will be entirely essay questions that are not the same as the ones on the regularly scheduled exam.

COVID-19 Protocols:

1) Wear a well-fitted mask during lab since we will be working closely in lab to observe experimental results.
2) If you become sick, please stay at home until you feel better.
3) If you test positive for Covid-19, isolate for at least 5 days from date of positive test or when symptoms started. If you miss a lab due to illness, you can make up a lab during the next lab day.

Communication Guidelines

I welcome you to contact me.

- **CR email** - The best way to reach me is through Canvas email in the Canvas Help tab. I will check email every day and respond within 24 hours (except weekends).
- **Canvas General Discussion** - If you have a question about the Microbiology content that you think other students might have, you may ask your question on the Canvas "General Discussion." I will check the Canvas General Discussion every morning.
- **Study sessions** once a week. They are optional. However, this is the time to ask questions. I encourage all students to attend these study sessions. At these study sessions, there will be specific group activities to help learn the material and we will review the types of questions that will end up on the exams.
- **Canvas Announcements Tab –** Check Announcements on Canvas regularly. This is where I will provide information about assignments. I recommend that you set up your Canvas site to inform you of new Announcements. If I need to get information to the whole class quickly, I will put the information in an announcement. If you have a question about an assignment, you can post a response to an announcement.
- Students have the legal rights that prevent information from being disclosed to anyone (including parents/guardians) without the student's prior written consent.

Student feedback policy

This class involves face-to-face lectures and labs. You will be required to participate in multiple threaded discussion forums. You will also be required to submit lab reports, essays, lecture and lab exams, and a Final Unknown Bacteria report.

You will find feedback on the Submission Details page on Canvas:

1. View Feedback – See comments that were placed directly on the assignment files submitted
2. Show Rubric – See the lab report answer keys and exam answer keys
3. Comments box

I tend to add a great deal of constructive comments. My goal is to help students learn how to answer science questions as well as learn the Microbiology content.

All grades are entered into Canvas. You can also expect assignments to be graded within 2 weeks of being submitted.

CANVAS

We will be using Canvas, the official Learning Management System (LMS) of College of the Redwoods extensively this semester.

1. To log into Canvas, you will need to go to https://redwoods.instructure.com.
    a. Your login is the same as your webadvisor login.
    b. Unless you have changed it, your password is your 8 digit birth date.
    c. For tech help, email its@redwoods.edu or call 476-4160.
2. The class workflow is organized in MODULES. DO NOT rely on the To Do list or the Assignments Tab to organize your class work schedule.
3. If there is content you are looking for but can't find, PLEASE email me ASAP. There are probably other folks looking for the same thing.
4. New modules will show up at the BOTTOM of your module list. All new modules will be published the weekend before. All old modules will remain available for you throughout the course.

Necessary Computer Skills

This Microbiology course will require some computer skills. Before beginning, make sure you can:

- navigate the course Learning Management System (Canvas)
- receive and respond to your CR email (This means you need to CHECK your CR email!)
- download and upload files to Canvas
- use a word processor program (such as Microsoft Word or Google Docs)

It is your responsibility to meet the technological demands of the course, which may often include troubleshooting technological adventures.

Required Materials

1. The lecture textbook for this class is ***Microbiology*****,** a FREE and open text, built by OpenStax College textbooks. You can access this text through the OpenStax website, https://openstax.org. If you would prefer, you can purchase a paper version through the website or the CR bookstore. The lecture material for this class will closely follow this textbook.

2. The Lab Manual: Microbiology Laboratory Theory & Application, BRIEF, 3rd edition, Leboffe & Pierce, ISBN 9781617314773 (Lab Manual can be USED and without lab report sheets, since I write all my own lab report questions.)

3. A method for taking notes.

4. Mask

Technology Requirements (computer, other hardware, and software)

To participate in the online portion of this class, you will need **laptop or desktop-based** computers, which meet the following requirements (CR's Laptop Lending Library):

- **Supported browsers:** Latest version of Firefox and Chrome
- A **stable** internet Connection

- **Portable Devices:** You can use recent model portable devices (such as Android or iOS phones & tablets) for ***some*** things in this class. If you do decide to use your portable device for ***some*** of your class work, use the free Canvas app (called "Canvas by Instructure") available in iTunes (for iOS) and the Google Play Store (for Android).
  - **Do not** try to connect to Canvas using a web browser on a portable device. Your experience with Canvas will be a lot better using the app.

- **High-speed internet:** You need to have reliable access to the internet at least two times a week for 16 weeks. Anticipate problems with your computer and internet access (including power outages) by not waiting until the last minute to submit assignments. It is your responsibility to meet the class deadlines.

Software Requirements: It is important that you set yourself up for success by making sure that you have the necessary software in order to participate fully in the course. Please make sure that you have the following set up by the first week of class:

- **Browsers** - You will need to use the most recent version of one of the following browsers in order to best access the course and activities; Mozilla Firefox (10 or higher), Chrome (54.0.2840.99 m or higher), or Safari (1.2 or higher). Do not use Internet Explorer as it does not work properly with Canvas.
- **Word Processing Software -** You need Microsoft Word or a compatible software program in order to create Word or Word compatible documents.
  - All students at CR can get Office 365 (Word, PowerPoint, Excel, and OneNote) FREE with a valid
    - @mycr.redwoods.edu or @redwoods.edu email account. Go to https://office.com/getoffice365 to get started.
    - There are free options such as Google docs (this requires a gmail account) or OfficeLibre.

Confirm your presence in the online classroom

Confirm your presence in this Microbiology class by attending lab on Tuesday, January 17, 2023, from 10:00am to 1:10pm in Science Bldg, Room SC 104. If you do not attend lab on Tuesday, January 17th, you will be dropped from the class so that another waitlisted student can be added.

Technology Support

You are welcome to email the instructor to ask for technology support. But keep in mind her primary job is to help you learn MICROBIOLOGY. Be ready to troubleshoot technological adventures and utilize all resources available to you. Here are some:

Before contacting Technical Support, please visit the Online Support Page. For password issues with Canvas, Web Advisor or your mycr.redwoods.edu email, contact Technical Support or call 707-476-4160 or 800-641-0400 ext. 4160 between 8:00 A.M. and 4:00 P.M., Monday through Friday.

Online Course Expectations

This four-credit hour class will require at least 8 hours per week just to gain content and then time to study the material on top of that. One hour of studying for every in-class hour is 16 hours per week if you want to succeed. You will need to attend lectures and take good notes; carefully read textbook chapters when something is unclear; participate in online discussions about lecture content; interpret data and results from lab experiments; work as a team in a face-to-face lab; write lab reports; identify an Unknown bacteria species and write a final report; complete online pre-lab quizzes; and take 4 lecture exams and 3 lab exams.

Conscientiousness, attention to details, and skills in reading, and writing are critical for success. You can do it!

Spring 2023 Bio 2 Lecture Tentative Schedule (Subject to change.)			
Week		*Lecture Topic*	*Readings*
1	1/16	***Martin Luther King, Jr. Holiday***	
	1/18	Course Intro	
2	1/23	History of Microbiology	Chapter 1
	1/25	The Cell - Modern Cell Theory	Chapter 3
3	1/30	The Cell - Prokaryotic Unique Characteristics	Chapter 3
	2/1	The Cell - Prokaryotic - Cell Wall Structure	Chapter 3
4	2/6	The Cell - Prokaryotic glycocalyces and flagella; Eukaryotic Endo and Exocytosis, lysosomes	Chapter 3
	2/8	Acellular Pathogens	Chapter 6
5	2/13	Microbial Biochemistry	Chapter 7
	2/15	Microbial Biochemistry	Chapter 7
6	2/20	***President's Day Holiday***	
	2/22	**LECTURE EXAM 1**	
7	2/27	Microbial Metabolism	Chapter 8
	3/1	Microbial Metabolism	Chapter 8
8	3/6	Biochemistry of the Genome	Chapter 10
	3/8	Mechanisms of Microbial genetics	Chapter 11
Spring Break			
9	3/20	Mechanisms of Microbial genetics	Chapter 11
	3/22	Modern Applications of Microbial Genetics	Chapter 12
10	3/27	Modern Applications of Microbial Genetics	Chapter 12
	3/29	**LECTURE EXAM 2**	
11	4/3	Control of Microbial Growth in the Environment	Chapter 13
	4/5	Antimicrobial Drugs	Chapter 14
12	4/10	Antibiotic Resistance	Chapter 14
	4/12	Microbial Mechanisms of Pathogenicity	Chapter 15
13	4/17	Disease and Epidemiology	Chapter 16
	4/19	Innate immunity	Chapter 17
14	4/24	Adaptive Immunity	Chapter 18
	4/26	Adaptive Immunity	Chapter 18
15	5/1	Diseases of the Immune System	Chapter 19
	5/3	**LECTURE EXAM 3**	
16	5/8	**FINAL EXAM** Comprehensive (10:45 am - 12:45 pm)	

Spring 2023 Bio 2 Tentative Lab Schedule						
Week				***Beginning Eperiment***	***Observe***	***Turn In***
1	T	1/17	1	1-3, 3-1		
	TH	1/19	2	1-4, 2-1, 3-4	1-3, 3-4	
2	T	1/24	3	1-5, 2-2, 2-3, 2-4	1-4, 2-1	1-3, 3-1
	TH	1/26	4	3-6, 3-8, 3-9	1-5	
3	T	1/31	5	3-6, 3-8, 3-9	3-6, 3-8, 3-9	1-5, 2-1, 2-2
	TH	2/2	6	1-5, 2-3, 2-4, 3-6 (Unknown)		
4	T	2/7	7	3-8, 3-9	1-5, 2-3, 2-4	
	TH	2/9	8	2-6, 2-7, 2-8, 2-9 *reinoculate*		3-4, 3-6, 3-8, 3-9
5	T	2/14	9	4-1, 4-3, 4-4, 4-5	2-6, 2-7, 2-8, 2-9	
	TH	2/16	10	5-2, 5-3 *reinoculate*	4-1, 4-3, 4-4, 4-5	
6	T	2/21	11	5-4, 5-5, 5-6	5-2, 5-3	2-6, 2-7, 2-8, 2-9
	TH	2/23	12	Review for Lab Exam	5-6	4-1, 4-3, 4-4, 4-5
7	T	2/28	13	**Lab Exam I**		
	TH	3/2	14	5-7,5-8,5-9,5-16 *reinoculate*		5-2, 5-3
8	T	3/7	15	5-10, 5-11, 5-12, 5-13	5-7,5-8,5-9,5-16	5-4, 5-5, 5-6
	TH	3/9	16	5-14, 5-15, 5-18 *reinoculate*	5-10, 5-11, 5-12, 5-13	
	T	3/14	17	Spring Break		
	TH	3/16	18			
9	T	3/21	19	5-19, 5-21, 5-23, 5-24	5-14, 5-15, 5-18	5-7,5-8,5-9,5-16
	TH	3/23	20	Bergey's manual overview. Use completed dichotomous key to narrow down unknown. *reinoculate*	5-19, 5-21, 5-23, 5-24	Turn in list of media needed for unknown redo tests. Bring descriptive chart to lab.
10	T	3/28	21	Unknown redo day		5-10, 5-11, 5-12, 5-13
	TH	3/30	22	Observe re-do results.		5-14, 5-15, 5-18 Completed Descriptive Chart.
11	T	4/4	23	**Lab Exam II**		
	TH	4/6	24	2-13, 7-2. BRING IN WATER THAT WILL BE TESTED ON Nov 10th		5-19, 5-21, 5-23, 5-24
12	T	4/11	25	7-6 (start)	2-13, 7-2	Completed Comparison of Unnown with Bergey's.
	TH	4/13	26	7-6 (confirmed)		
13	T	4/18	27	7-4	7-6 (final)	
	TH	4/20	28	Sign up for face-to-face meeting	7-4	
14	T	4/25	29	Sign up for face-to-face meeting		2-13, 7-2, 7-6, 7-4
	TH	4/27	30	**Lab Exam III**		Turn in rough draft of unknown report
15	T	5/2	31	Sign up for face-to-face meeting		
	TH	5/4	32	Sign up for face-to-face meeting		
16				FINALS week: Lab does not meet		