COLLEGE OF THE REDWOODS

Syllabus for BIOL-3-E8311

Course Information

Semester & Year:	Spring 2025
Course ID & Section #:	BIOL-3-E8311
Instructors' name:	Julie Kelly
Course units:	4
Lecture:	
Day and Time	Monday and Wednesday from 1:15pm - 2:40pm
Place	Science Building, Room SC 210
Lab:	
Day and Time	Friday from 2:50 am - 6:00 pm
Place	Lab - Science Building, Room SC 104

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: To Be Announced
When: To Be Announced

Catalog Description

A course intended for biology majors covering principles and applications of prokaryotic and eukaryotic cell structure and function, biological molecules, homeostasis, cell reproduction and its controls, classical and molecular genetics, cell metabolism, and cellular communication.

Course Student Learning Outcomes

- Identify and describe biological molecules and cell structures and explain their functions.
- Compare and contrast cellular processes and interactions between prokaryotes and eukaryotes (including metabolism, reproduction, communication, and genetics).
- Explain how DNA replicates and transmits genetic information within organisms.
- Apply the processes of scientific inquiry and experimental design to the study of biological concepts.

Prerequisites/corequisites/ recommended preparation

CHEM1A - General Chemistry

Educational Accessibility & Support

College of the Redwoods is committed to providing reasonable accommodations for qualified students who could benefit from additional educational support and services. You may qualify if you have a physical, mental, sensory, or intellectual condition which causes you to struggle academically, including but not limited to:

- Mental health conditions such as depression, anxiety, PTSD, or bipolar disorder
- Common ailments such as arthritis, asthma, diabetes, autoimmune disorders, and diseases
- Temporary impairments such as a broken bone, recovery from significant surgery, or a pregnancy-related disability
- Neurodevelopmental disorders such as a learning disability, intellectual disability, autism, acquired brain injury, or ADHD
- Vision, hearing, or mobility conditions

Available services include extended test time, quiet testing environments, academic assistance and tutoring through the LIGHT Center, counseling and advising, alternate formats of course materials (e.g., audio books, braille, E-texts), assistive technology, learning disability assessments, approval for personal attendants, interpreters, priority registration, on-campus transportation, adaptive physical education and living skills courses, and more. If you believe you might benefit from disability- or health-related services and accommodations, please contact Student Accessibility Support Services (SASS). If you are unsure whether you qualify, please contact Student Accessibility Support Services (SASS) for a consultation: sass@redwoods.edu.

SASS office locations and phone numbers

Eureka campus

- Phone: 707-476-4280
- Location: Student Services building, first floor SS113

Student Support Services

Good information and clear communication about your needs will help you be successful. Please let your instructor 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.

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

CR Online Learning Support

Tech support, laptop loans, guides to using Canvas, installing Office 365 for free, and more.

Library Articles & Databases

Find the best library databases for your research.

Online Tutoring Resources

Participate in tutoring over Zoom.

To learn more about the resources available to you, click on a title bar below, or click the down arrow to expand them all.

Klamath-Trinity students can contact the CR Klamath-Trinity Office for specific information about student support services at 530-625-4821.

Community College Student Health and Wellness

National Suicide Prevention Lifeline

If you are in distress or are with someone at risk right now, call or text the National Suicide Prevention Lifeline.

Call the National Suicide Prevention Lifeline
1-800-273-TALK (8255)

Text the National Suicide Prevention Lifeline
741-741

Timely Care

When you're not feeling well physically or distressed mentally, Timely Care can offer the help you're looking for in just a few quick taps. Students can schedule an appointment anytime via phone, video, and chat. Log in or set up an account with Timely Care.

Mental Health Counseling

Students should text, email, or fax Shawna Bell directly for scheduling and/or services.

- Text: 707-496-2856
- Email: shawnabmft@gmail.com
- Fax and voicemail: 707-237-2318

Wellness Central

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 Wellness Central.

Counseling

Counseling and Advising can assist students in need of academic advising and professional counseling services. Call, email or stop by one of our offices to make an appointment!

Counseling and Advising office locations and contact info

Eureka campus

- Phone: 707-476-4150
- Location: Student Services Building, first floor
- Email: counseling@redwood.edu
- Hours: Monday through Friday, 9am to 4pm. Summer hours may vary

Basic Needs Center

Basic Needs Center provides for the health and safety of students by providing access to healthy food, financial resources, and referrals to safe and secure housing. Submit a request for services and information.

Basic Needs Center contact info

- Phone: 707-476-4153
- Email: the-grove@redwoods.edu

Learning Resource Center

The Learning Resource Center includes the following resources for students:

Library Services

Introduction - Library Services for Students - LibGuides at College of the Redwoods promotes information literacy and provides organized information resources.

Multicultural and Equity Center (MCE)

The Multicultural and Equity Center is a dynamic and inclusive place that supports all students in their academic and personal journeys at the college. We do this by creating community, home away from home, and a safe place for cultural expression, cross-cultural learning, access to college and dignity resources, and social justice work opportunities. The MEC is committed to retention and student success by offering activities related to leadership development, student connectedness and student equity. We are a student-centered program that fosters respect for all people.

Academic Support Center

The Academic Support Center offers tutoring and test proctoring for CR students.

Student Tech Help

Technical Support provides students with assistance around a variety of tech problems.

Extended Opportunity Programs and Services (EOPS)

EOPS/CARE (EOPS) provides services to eligible income disadvantaged students including: textbook awards, grants, career academic and personal counseling, transportation assistance, tutoring, laptop, calculator and textbook loans, priority registration, graduation cap and gown, workshops, and more!

TRiO Student Success Program

The TRiO Student Support Services Program provides eligible students with a variety of services including academic advising, career assessments, assistance with transfer, and peer mentoring. Students can apply for the program with the Eureka TRiO office .

Veterans Resource Center

The Veterans 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

California Work Opportunity & Responsibility to Kids (CalWorks) provides supportive services to student parents with children under the age of 18, who are receiving cash assistance (TANF benefits), to become self-sufficient. Services include: transportation assistance, basic student supplies, tutoring, priority registration, laptop and calculator loans, career, academic, and personal counseling, and more!

Evaluation & Grading Policy

ASSESSMENT AND GRADING

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

100 – 93% = A 92.9 – 90% = A-

89.9 – 87% = B+ 86.9 – 83% = B 82.9 – 80% = B-

79.9 – 77% = C+ 76.9 – 70% = C

69.9 – 60% = D

< 59.9% = F

Point break-down for class

Lecture

lecture exams	3 X 100 points	300
Lecture discussion	23 assignments x 3 points	69
Lecture participation	23 assignments x 3 points	69
Reading assignments	23 assignments x 3 points	69
Homework	2 assignments x 10 points	20
Open-Notes Quizzes	3 x 15 points each	45

Lab

lab notebooks	13 x 10 points each	130
lab quizzes	2 x 50 points	100
Final Project		100

902 total points

Your earned grade will be based on the percentage of points received compared to the total possible points. THERE WILL BE NO CURVE, NO MAKE-UP EXAMS (unless a doctor's note is provided),

Spring 2025 Dates

Date	To Remember
January 17	Last day to register for classes (day before the first class meeting)
January 18	Classes begin
January 20	Martin Luther King's Birthday (All Campuses Closed)
January 24	Last Day to add a class
January 31	Last Day to Drop & Receive a Refund
February 2	Last Day to Drop w/out a "W"
February 3	Census Date (20% of class)
February 14	Lincoln's Birthday (All Campuses Closed)
February 17	President's Day (All Campuses Closed)

Date	To Remember
March 6	Last Day to Petition to Graduate & Petition for Certificate
March 17 - 22	Spring Break (No Classes)
March 28	Last Day for Student/Faculty Withdrawal
March 31	Cesar Chavez Day (All Campuses Closed)
May 10 - 16	Final Examinations
May 16	Last Day to File P/NP Option
May 16	Semester Ends
May 23	Grades Due
May 26	Memorial Day (All Campuses Closed)
May 30	Grades Available for Transcript Release

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 2024-2025 College Catalog and CR Board and Administrative Policies.

AI Use Class Policy

Generative AI tools, such as ChatGPT and Google's Bard, are likely to be widely used in the workplace moving forward. It's important for you to understand how to use them ethically and effectively. For that reason, in this class, you will sometimes be invited to use such a tool in the completion of an assignment. In this class, using generative AI tools is not cheating if the outputs are screened by you for accuracy, bias, appropriateness, and fidelity to your perspective.

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. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the 2024-2025 College Catalog and CR Board and Administrative Policies.

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.

Canvas Information

- Log into Canvas at My CR Portal
- For help logging in to Canvas and general tech help, visit Canvas Support Home
- Once you're logged in to Canvas, you click on the Help icon on the left menu
- Canvas online orientation workshop: Canvas Student Orientation Course

Setting Your Preferred Name and Pronouns in Canvas

Students have the ability to display personal pronouns and an alternate first name in Canvas. Students may change their pronouns on their own in Canvas (Account :: Settings :: Edit Settings). To request a change to your preferred list name, contact Admissions and Records. 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-2022.pdf.

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 and selecting 'Students' then 'Academic Profile' then 'Current Information Update.'

Please contact Public Safety at 707-476-4112 or campus-safety@redwoods.edu if you have any questions. For more information visit Campus Safety. Please review the EurekaEmergencyMap_S24.pdf for campus evacuation sites, including the closet site to this classroom (posted by the exit of each room).

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.

BIOLOGY 3 – FUNDAMENTAL CELL BIOLOGY COURSE INFORMATION

COMMUNICATION BETWEEN STUDENT AND PROFESSOR

1) Professor will check email and Canvas Comments and respond to students within 24 hours (weekends not included).
2) Student will check Canvas Announcements.
3) Student will check Canvas Assignment Feedback on every Cell Biology assignment.

RESOURCES

1. Lecture textbook: ***Biology2e*** is a **free** and open text built by OpenStax College textbook.

Available in 2 formats:

- PDF version
  Accessed at http://cnx.org
  Select *Biology2e*.
  Select **Get this title**
  Select Download PDF

- Access through CANVAS

2. Lab Handouts and other resources from CANVAS site.
3. ***Laboratory notebook***: Any 3-ring notebook will be fine. Graphs MUST be done on graph paper or via a computer graphing program.

TECHNOLOGY

1. Learning Management System: CANVAS by Instructure

This course makes heavy use of the online resource ***Canvas***. You will need to have reliable access to the internet at least twice a week for the duration of this class. If you are having technological difficulties, get help EARLY!

2. Access to free student response system

- Cloud-based student response system
  - Socrative http://www.socrative.com
  - Log in as student

3. Method of copying Lab notebook to submit notebook electronically.

- Scan notebook pages and submit as PDF electronically
- Photograph and convert JPG file to PDF to submit electronically

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.

Your assumptions about me

- I am fully committed to helping you learn about BIOLOGY.
- 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.

Lab and the Lab Notebook:

The purpose of the lab experiments is to demonstrate the way in which biological information is gained. This requires the use of scientific equipment and experimental techniques. Carefully record the facts (actual observations) in your lab notebook as you perform the experiments. Your observations should be recorded in a meaningful way and discussed by referring to previously known facts and theories. Your discussion should be accompanied by conclusions drawn from your data as well as informed speculations. **Also, any unexpected results or mistakes should be recorded.**
You will be able to use your lab notebook during the 2 lab quizzes.
The format of each lab write-up should be as follows:

- Heading: the name of the experiment and the date performed
- Purpose: A sentence or 2 describing the intent of the experiment
- Equipment and Procedure: VERY abbreviated list of materials and an OUTLINE of the steps to take. **This will be the lab handout from the lab manual.**
- Data: All the information obtained during the experiment and recorded the day of the lab during class
- Graphs: tables and graphs to organize the data. All tables and graphs should be labeled so that
    - a reader could understand the contents **without flipping back and forth to the procedures or**
    - **data pages**. Each graph must include:
        - Title of the graph
        - Labels, including units, on each axis
        - Legend if there is more than one line or bar
        - Separate lines/bars must be easily distinguishable
- Analysis: Discussion and conclusions put into context as described above.

The final notebook grade will be based on the quality of the data presentation, legibility, logic, and quality of the analysis. The analytical quality is the most important aspect.
You are encouraged to work in groups. However, each student must write up their own lab reports independently.

Final Project Description:

The final lab project is intended to be fun, and it is also intended to give students the chance to have at least part of their grade determined by something that really interests them. The topic must relate to some aspect of cell biology and is not limited to topics covered in class. The presentation format is open, as long as it's non-offensive (check with me if you're unsure), legal, and no one gets hurt. Examples of past presentations include a salmonella cell wall model made entirely of macaroni, an informative lecture on digestive enzymes, a blues song about a typical animal cell, and models of cells in various forms. **The main restriction I place on you is that you MUST sign up for a topic and provide a project outline.**
Failure to sign up for a topic and provide your outline will result in not being able to participate in this assignment, and you will receive a zero. Your presentation cannot be longer than 6 minutes. We will discuss the presentation further in lab over the course of the semester. If you have questions at any point, please ask.

Spring 2025 Bio 3 Tentative Lecture Schedule				
			Lecture Topic	*Open Stax Textbook*
Week 1	M	1/20	***Martin Luther King Holiday***	
	W	1/22	Intro to course; diversity & life	Ch. 1: The study of life
Week 2	M	1/27	Chemistry review: atoms, molecules, water, and carbon	Ch. 2: The chemical foundation of life
	W	1/29	Biological macromolecules	Ch. 3: Biological macromolecules
Week 3	M	2/3	The cell structure	Ch. 4: Cell structure
	W	2/5	The cell Membrane	Ch. 5: Structure and function of plasma membranes
Week 4	M	2/10	Energy, Metabolism, and enzymes	Ch. 6: Metabolism
	W	2/12	Energy in living systems & glycolysis	Ch. 7: Cellular respiration 7.1, 7.2
Week 5	M	2/17	**President's Day**	
	W	2/19	Open-Notes Quiz / Review	
Week 6	M	2/24	**Exam 1**	
	W	2/26	Citric acid cycle and electron transport chain	Ch. 7: Cellular respiration 7.3, 7.4
Week 7	M	3/3	Anaerobic metabolism & connections to lipid and protein metabolism	Ch. 7: Cellular respiration 7.5, 7.6
	W	3/5	Regulation of cellular respiration	Ch. 7: Cellular respiration 7.7
Week 8	M	3/10	Photosynthesis	Ch. 8: Photosynthesis
	W	3/12	Cell communication: signals, receptors, & signal propagation	Ch. 9: Cell commumnication
			Spring Break	
Week 9	M	3/24	Cell communication: response & signals in single-celled organsims	Ch. 9: Cell commumnication
	W	3/26	Cell cycle control, cancer, and binary fission	Ch. 10: Cell reproduction
week 10	M	3/31	**Holiiday - Cesar Chavez Day**	
	W	4/2	Open-Notes Quiz / Review	
Week 11	M	4/7	**Exam 2**	
	W	4/9	Mitosis and the cell cycle	Ch. 10: Cell reproduction
Week 12	M	4/14	Meiosis and sexual reproduction	Ch. 11: Meiosis and sexual reproduction
	W	4/16	Mendelian inheritance	Ch. 12: Mendel's experiments and heredity
Week 13	M	4/21	Modern genetics	Ch. 13: Modern understanding of inheritance
	W	4/23	DNA structure and function	Ch. 14: DNA structure and function
Week 14	M	4/28	Genes & proteins	Ch. 15: Genes and proteins
	W	4/30	Gene expression through epigenetics	Ch. 16: Gene expression
Week 15	M	5/5	Biotechnology and genomics	Ch. 17: Biotechnology and genomics
	W	5/7	Open-Notes Quiz / Review	
	W	5/15	**Final Week - Exam 3**	

Spring 2025 Bio 3 Tentative Lab Schedule			
		Date	*Lab Exercise*
Week 1	W	1/22	Care and Use of the Microscope / Cell Structure
Week 2	W	1/29	Macromolecules
Week 3	W	2/5	Diffusion / Osmosis
Week 4	W	2/12	Enzymes / Catalase
Week 5	W	2/19	Cellular Respiration / Fermentation
Week 6	W	2/26	Photosythesis / Chromatography / Spectroscopy
Week 7	W	3/5	Mitosis
Week 8	W	3/12	Meiosis (Lab Quiz 1)
		3/19	**Spring Break**
Week 9	W	3/26	Genetics - Human Inheritance - Blood typing
Week 10	W	4/2	Cheek DNA isolation and PV92 locus PCR from cheek cell DNA; **Deadline to sign up for Final Project topic with outline.** No outline= no project (zero for the assignment!)
Week 11	W	4/9	Agarose gel on PV92 locus PCR reactions—determine individual genotypes
Week 12	W	4/16	Analyze mitochondrial DNA sequence
Week 13	W	4/23	Continue mitochondrial DNA analysis
Week 14	W	4/30	Final presentations
Week 15	W	5/7	Lab Quiz 2
Week 16	W	5/14	Finals Week **No** Lab