SANTA ROSA JUNIOR COLLEGE

Biology 10: Introduction to Principles of Biology Section 5006 and 5011

Instructor:	Keizen Li Qian (they/them)	**Email:**	kliqian@santarosa.edu
Office:	Lark 2028 or Zoom option Meeting ID: 986 5637 6532 Passcode: electron	**Office Hours:**	By appointment or TTh 1:00 pm (Lark 2028)
Class times and places:	Lab 7:30-10:30 (Section 5006 T or 5011 Th) in Baker 1869 Lecture 11:00-12:30 T and Th in Lark 2004	**Final Exam:**	11am -12:20 pm Th 5/16

Welcome!

Welcome to Biology 10! I am so excited to work with you this semester! We hope that you are just as excited to get to know and work with each other and to learn more about the natural world.

We all have our own valuable talents, skills, experiences, and perspectives to bring to the table, and we all have things to learn from one another. I get to know my shortcomings and learn from students every semester, so we are really learning and growing together.

If there are aspects of course instruction, subject matter, or classroom environment that exclude you, it would be an act of generosity to let me know so I can try to improve. We all contribute toward a positive learning environment.

Course Description and Learning Objectives

Course Description

Introductory course in biology including scientific method, ecology, biodiversity, physiology and anatomy, chemistry of life, cell and molecular biology, genetics, and evolution.

Student Learning Outcomes

Upon completion of the course, students will be able to:

1. Explain the core concepts of biology (evolution and adaptation, structure and function, systems and biology, flow of information, flow of energy and matter) as they apply to appropriate topics of cell and molecular biology, organismal biology, genetics, evolution and ecology.
2. Integrate related core concepts.
3. Demonstrate skill in core competencies.

Learning Objectives

Upon completion of this course, students will be able to:

1. Discuss relationships and connections between the five core concepts.
2. Evaluate how evidence for evolution relates to the scientific process and be able to construct an argument to counter common evolution misconceptions.
3. Apply the core concept of evolution and adaptation to all course content, cell and molecular biology, genetics, organismal, and ecology.
4. Integrate microevolutionary mechanisms with macroevolution.
5. Correlate the structure and function of plant and animal organ systems, organs, tissues and cells.
6. Compare and contrast the cell structure and function of prokaryotic and eukaryotic cells and of plant and animal cells.
7. Integrate concepts of diffusion and osmosis with cell membrane structure and mechanisms of transport.
8. Explain the relationships between the structure of atoms, molecules, and biological polymers, and their significance to cells, physiology, genetics, and evolution.
9. Integrate knowledge of molecular genetics, inheritance, and cell division (mitosis and meiosis), and apply these to evolutionary biology.
10. Apply understanding of negative feedback loops at the cellular and physiological level.
11. Integrate concepts of molecular, cellular, physiological, and ecological energy flow and nutrient cycling.
12. Apply knowledge of ecological principles to current ecological problems.
13. Integrate different levels of the biological hierarchy and examine emergent properties.
14. Test ideas with evidence, applying the scientific process to biological investigation including data analysis and interpretation.
15. Evaluate evidence as part of a scientific community.
16. Apply laboratory techniques, including proper microscope use, to observe and experiment with biological phenomena.

Instructor Contact, Office Hours, Communication

Instructor Contact

Keizen Li Qian (they/them). Pronunciation: https://www.name-coach.com/keizen-liqian Please call me Keizen or Professor, if you prefer.

Office Hours

- My favorite part of teaching is working with students one-on-one in office hours.
- Please come by at the hours on page 1.
- If no one comes in the first 10 mins, I may end the Zoom meeting and leave my office. If you plan to come after that, email me and I will gladly wait for you.
- If you need to meet at a different time, email me with 3–4 dates and times that would work, and whether you can meet on Zoom.

Canvas Inbox and Course Website

- I prefer to communicate through the Canvas Inbox but feel free to email as well, at kliqian@santarosa.edu. If you're not familiar with the Canvas Inbox, here is a Canvas Inbox Tutorial.
- I aim to respond to emails within 24 hours, so please don’t hesitate to resend your email if I haven't responded by then.

- You'll use this Canvas course website for instructional content, assignment instructions, submitting assignments, viewing classmate's work, sharing resources, and viewing grades. Note that students in both sections will be able to view your name and posts on Canvas.
- I will post Canvas announcements on Saturdays with information for the following week. From time to time, I'll send more personalized emails to individuals or to groups, as needed.

Remind texting (optional)

For timely communications, join Remind at https://www.remind.com/join/bio10s24

Course Materials and Technology

Textbook and Online Resources

You can find our textbook for free online here: https://openstax.org/books/concepts-biology/pages/1-introduction
You can also locate and order a paper copy of the textbook online via the SRJC Bookstore. Note that if you want to pick your books up in Petaluma, you need to order them from the Petaluma Bookstore website.

OpenStax Concepts of Biology

• Fowler, Samantha and Roush, Rebecca and Wise, James
• ISBN for digital (free) version: ISBN-10: 1-947172-03-4
• ISBN for paperback (buy it if you want a paper copy) version: ISBN-13: 978-1-50669-653-9

A hardcopy of the lab manual is required, and **you must bring the entire lab manual to lab every week for lab points** (see Grading below).

Biology 10 Lab Manual, Santa Rosa Campus

• Arbor Crest Publishing, 2019
• make sure to get the Santa Rosa version, not Petaluma

Technology

Go to SRJC libraries for laptops, calculators and hotspots. A hardcopy of our textbook is also available on reserve in Doyle.

Grading, Assignments and Due Dates

Workload

- BIO 10 is a 4-unit course. In addition to 3 hours of lecture and 3 hours of lab on campus, students are expected to spend a minimum of 6 hours per week to study course materials and complete assigned reading, homework, and projects.
- If you are not able to devote the required time, you are welcome to get the most you can from class with the expectation that you might not pass. I strongly urge you to consider taking BIO 10 in a semester when your own schedule fits the demands of this course.
- The single greatest factor in student success is the amount of time and active engagement spent preparing for the course. I will provide some instructions and one-on-one support, if needed, to help you make a study schedule and to use time effectively. These are essential college skills that I'm committed to helping you to develop.

Grading Policy

Visit the "Grades" page in Canvas course navigation to keep track of your grades and let me know right away when something doesn't match your records. I grade and post grades and comments on the online Canvas gradebook. I will return grades and/or feedback 1 week after the deadline for most assignments (2 weeks for written assignments and projects, 2 weeks after the unit close date for exam short answers).

Grades will be assigned as follows:

A	**90%**	**896 points or more**
B	80%	**796 to 895** points
C	70%	**696 to 795** points
D	60%	**596 to 695** points

If taking Pass/No Pass you need at least 696 points to pass the course.

Grades are transferred directly from Canvas into the final grade system, so what shows in Canvas is accurate.

You can use the What If? grade function in Canvas to set specific goals on assignments - it will show you how your grade will change given an assignment grade you enter. Here is a link to learn about this tool: What If Grades in Canvas.

The course outline of record is the required organization of this course for all sections. The % of your grade that comes from each category is part of the course outline of record. The following table illustrates which assignments and assessments fit into each required category.

See the course outline of record for more information: Bio 10 COR

Course Outline Category	Assignments & Assessments	% of your grade from that category
Lab reports or writing	1 Scientific Claims Assessment project, 3 discussions	10

problem solving/homework and labs	12 labs, note taking	10
skill demonstrations	microscope quiz	2
Exams lecture & lab	10 quizzes, entrance/exit tickets, 4 lecture exams (best 3 out of 4 exams), 3 lab exams	68
Other/participation	3 scientist spotlights, 2 self-assessments, 3 success activities, surveys	10

Points will come from the following assignments and assessments:

Assignment/assessment	Description	Points	% of your final grade
Scientific Claims Assessment project	Individual and group reading, research, and writing to assess the truth of a scientific claim	70	7
3 discussions (5–15 pts each)	Canvas discussion including initial post and reply to a classmate	30[s]	3
12 labs (7 pts each)	Pre-lab assignment due at the start of lab, lab activities completed during lab period, and verbal or written quiz questions, will be earned during lab	84[s]	8.4
3 lecture notes (5- 6 pts each)	Sign up to be a note taker for 2 lectures over the semester, take a picture of or otherwise share notes for the class (notes don't have to be perfect!)	16	1.6
microscope quiz	short answer and demonstration related to the microscope skills you will learn in lab, will take place during lab	20	2
entrance/exit tickets (5 pts each)	Most weeks there will be short written or verbal assignments due at the start or end of each lecture topic	80[s]	8
3* lecture exams (100 pts each) *best 3 out of 4 exam scores.	Multiple choice and short answer including drawing related to lecture content. Will take place during lecture	300	30

10 lab quizzes (10 pts each)	Most weeks there will be an open note multiple choice Canvas quiz on lab content	100[s]	10
3 lab exams (50pts, 50 pts, 100pts)	Multiple choice and short answer related to lab content. Will take place during lab	200	20
3 scientist spotlights (15 pts each)	350-word reflections on a scientist's life and/or research	45	4.5
2 self-assessments (10 pts each)	Surveys taken after Units 1 and 2 about your study strategies and their effectiveness. Also, an opportunity to give course feedback.	20	2
3 success activities (10 pts each)	1 activity per Unit from a list of activities that typically help students succeed in college courses	30	3
pre and post semester surveys (5 pts each)	Surveys to help me assess how I am doing on non-grade related metrics of student success and get to know students individually	10	1
totals:	----------	1000	100

[s] These categories **support** your learning either lecture or lab content and will be replaced with a higher lecture or lab exam score at the end of each unit. Ask me about equitable grading!

Turning in assignments

- In this course, all assignments will be submitted through Canvas. Each assignment will have a **due date** (listed in the course schedule) and a **close date** (the lecture or lab Unit close date except for Scientific Claims assignments and surveys). I will accept assignments for full credit until the close date.
- Some assignments will require file uploads. **Never submit a live document** (like a google doc or google spreadsheet) - I cannot accept these because they don't appear in Canvas and can be changed after grading.
- Each assignment page will have instructions and upload help links. Start your upload at least 30 min before the close time (11:59 pm) and check that the file uploaded correctly. Submit a day in advance if you might need help from me.

Exams and quizzes

There will be online weekly quizzes taken as Canvas quizzes, as well as in-person lecture and lab exams.

- Restricted notes will be allowed for lecture exams, but lab exams are closed-book, no notes.
- The material comes from the textbook, lectures, labs, and supplemental materials provided.
- I will not be able to arrange make-up exams for missed lab exams, as they require lab space, lab specimens, and lab equipment but I will work with the Disability Resources Department to ensure any

accommodations requirements are met. A makeup lecture exam may be possible, but only in the event of unforeseen emergencies. This policy is to protect my time, as proctoring an exam takes hours away from my other work, which is difficult for me to do without advance notice and planning.

Many students experience exam anxiety. Some strategies that have worked for other students:

- Go over your notes before and after each class. Some students reorganize notes by making tables, charts, diagrams, and word banks or by color coding. Keep a well-organized study guide.
- Practice active learning. We will practice and discuss this strategy throughout the course.
- Write down questions you need help with and plan to come to office hours to get help.
- Schedule time to study. Turn off all devices during this time. When your scheduled study time is over, move on to something else.
- Take your first quiz attempt early, treating it as a practice test. After your first quiz attempt, come to office hours to go over what you missed before making additional attempts.

Late Policy

This course is set up so that you can learn from your mistakes by correcting work, and practice time management skills without fear of failure. You should plan on completing good work on time, but when your work does not meet the criteria, or when you fall behind, you will have some opportunities to fix mistakes and catch up again.

All assignments are due **at 11:59pm PST** on the close date. There is no need to ask for an extension: I will accept late work for full credit up until 11:59 pm the Sunday after each Unit exam except for the assignments related to the group Scientific Claims Assessment and some surveys whose results I need to use immediately; lab quizzes close the Sunday after each Lab exam. To prevent any students from falling too far behind and to help me manage my own grading and preparation time, after a unit closes, I will not accept, give feedback on, or grade work from that unit.

If you are struggling to keep up with the course, I encourage you to come to office hours. We will talk about your grade goals and together as a team we will make a priority list and schedule to help you adjust.

Extra Credit

For equity, there is no extra credit for this course. Ask me about equity in grading in office hours!

Important Dates, Enrollment, and Attendance

Important Dates

Tuesday, January 16, 2024	**CLASSES BEGIN**
Tuesday, January 23, 2024	Last day to register/add semester length class without instructor's signature or add code
Sunday, January 28, 2024	Last day to drop semester length class and be eligible for a refund

Sunday, February 4, 2024	Last day to register/add semester length class with the instructor's signature or add code AND Last day to drop a semester length class without "W" symbol
Thursday, February 15, 2024	**PDA Day (No Classes, District Closed)**
Monday, March 18 - Sunday, March 24, 2024	**Spring Break! (No classes)**
Sunday, April 21, 2024	Last day to drop a semester length class with "W" symbol
Thursday, May 16 11am -12:20 pm	**Cumulative Final Examination in regular classroom**

No-show drop

If you do not sign into Canvas or if you do not attend the first two class meetings and I don't hear from you, I may drop you from the course to make space for waitlisted students. If you know you will miss sessions, communicate with me to avoid being dropped.

During the semester, if you do not sign into Canvas and miss 2 consecutive sessions and/or 5 assignments without contacting me, I may drop you from the course up until census day (when the college reports enrollments to the state).

I expect you to take responsibility for your own enrollment - if you plan to withdraw make sure you do so by the posted deadlines. Do not rely on me to drop you from the course.

Withdrawing and Excused Withdrawal (W and EW)

You might decide that this course doesn't fit into your life this semester. If you do, I respect that you have priorities outside of this class. Before you withdraw, I encourage you to check in with me 1 on 1 to see if we can work together to help you prioritize your time in the course to succeed. I also encourage you to meet with a counselor to make sure withdrawing is the best option, and to discuss whether you are eligible for an excused withdrawal.

- A regular withdrawal will show up as a W on your transcript and will count towards your number of attempts in the course.
- An excused withdrawal will show up as an EW on your transcript and will not count towards your number of attempts in the course.

Here is a link for scheduling a counseling meeting: Meet with a counselor.

Attendance

- I expect you to attend all class sessions.
- That said, I am aware that unavoidable conflicts and emergencies emerge. If for some reason you cannot attend a class session, contact me as far in advance as possible (or as soon after the absence as possible in unforeseen circumstances). It is your responsibility as a college student to ask for any support you need to catch up.
- In my experience, catching up after missing a class requires more time and effort than attending.

- If you are not present, there is no way to make up points that are earned in class such as entrance tickets and lab participation.

Accommodations, Health, and Resources

Accommodations and Adjustments

Access and Accommodations: It is the mission of the Santa Rosa Junior College to support inclusive learning environments. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or to accurate assessment of achievement—such as time-limited exams, inaccessible web content, or the use of non-captioned videos—please notify the instructor as soon as possible. Students are also welcome to contact the Disability Resources Department (DRD). DRD is a resource for students that provides authorization for academic accommodations, training and access to assistive technology, and collaborates on strategies for academic success.

Students with disabilities who need or may need accommodations in this class are encouraged to contact Disability Resources (527-4278), disabilityinfo@santarosa.edu as soon as possible to better ensure such accommodations are implemented in a timely fashion. You will need to provide the Authorization for Academic Accommodations (AAA letter) from the Disability Resources Department (DRD) to receive accommodations.

I want you to have what you need to succeed, so if you may be eligible, please seek all accommodations you are entitled to even if you have not done so in previous classes.

Physical & Mental Health

From Student Health Services:

> Should you experience any physical or mental health issues, know that all of us at SRJC care about your well-being. Did you know that you have free access to nurses, counseling, and certain testing and medications because you pay a student health fee? SHS offers confidential, in-person or secure remote services for all SRJC students, and some providers can converse with you in Spanish if you prefer. They also have on-site COVID rapid testing and vaccinations available, all at no cost.
>
> To start the process for any type of physical or mental health appointment contact Student Health at 707-527-4445 or email studenthealthservices@santarosa.edu

Sonoma County Crisis hotline: (707) 576-8181

National Lifeline: 9-8-8

Additional resources for success

- Student Success Team – student coaches
- Tutorial Centers
- Library resources - Librarians are available online. Go to "online chat" or "zoom appointments." Libraries are open in person this semester (check website for hours)
- Need A Laptop or other equipment? Borrow from SRJC Library
- Apply for Crisis Financial Assistance: Emergency grant application
- Accessing Online Student Services

- Basic Needs – Student Resource Center supports meeting student needs for food, housing, transportation, and much more

Conduct and Integrity

We deserve appropriate instructions, warnings, and chances to improve. I am learning how to make our classroom reflect this reality and commit to rehabilitative rather than punitive consequences for mistakes. Please help me co-create this restorative learning environment with your suggestions and observations!

Classroom policies

1. **Only come to class if you feel healthy and have no COVID-19 symptoms.** We have to work together to continue having in-person class. If you test positive for COVID-19 and may have been on campus, contact your instructors immediately. Follow county guidelines and you don't need to test negative to return to campus.
2. Class starts at 7:30 am and ends at 12:20 pm with a 30-minute lunch break. **It's better to be late than absent.**
3. Help co-create a positive learning environment. Ask questions and offer responses in class, organize a group office hour with other students, post study guide questions and answers, or let me know when a classmate helped you. Unprofessional behavior, such as inappropriate language or missing appointments repeatedly, may result in penalties.
4. You are invited to have your laptop or tablet in class to work on assignments and access digital resources in class and lab.
5. **If you must use a digital device for anything unrelated to class, step outside to support a positive learning environment in the classroom**.

Present your own creative, original work

I trust you and believe that no student sets out to plagiarize (copy) the work of others. This can happen due to unbearable stress, mistake, or confusion about what counts as plagiarism.

Plagiarism is not just submitting someone else's paper as your own. It's taking sentences, even short phrases directly from another source or sources without proper attribution. You are a creative, intelligent, capable person and you can communicate in your own original way with your own words. If you're not doing original work, all the assigned work is really just busywork and is not a useful learning tool. Copy/paste is not worth your valuable time. I encourage students to share information and ideas, but not their work.

All work for this class must be original (in your own words) and completed individually (each student submits their own unique work) unless otherwise specified in the assignment details. Quotes, even if properly attributed, are not permitted in any assignment unless otherwise specified in the assignment details.

My best advice for avoiding plagiarism is to always take notes in your own words, and never look at the original source while doing your work. If you're ever confused about whether you're writing in your own words or not, come to office hours or the writing center. We'd all love to help you!

To learn more, including specific examples, see these links on Plagiarism: SRJC Writing Center Lessons on avoiding plagiarism SRJC's policy on Academic Integrity

SRJC Standards of Conduct

Students who register in SRJC classes are required to abide by the SRJC Student Conduct Standards. Violation of the Standards is basis for referral to the Vice President of Student Services or dismissal from class or from the College. See the Student Code of Conduct page.

Netiquette, or Why Is It Harder to Be Polite Online?

Netiquette refers to using common courtesy in online communication.

In our first week of classes, we will come up with shared classroom goals and values. In the meantime, please use these guidelines for discussions and communications through Canvas:

- Forward emails and other private messages only with a writer's permission.
- Be considerate of others' feelings and use language carefully.
- Cite all quotations, references, and sources (otherwise, it is plagiarism).
- Use humor carefully. It is hard to "read" tone; sometimes humor can be misread as criticism or personal attack.
- To ensure that others can understand you, use complete sentences to compose posts. Review work before submitting it.
    - Abbreviations, such as "ur" for "your" or "ru" for "are you" etc., is confusing for many people, so please use full words.
    - If you don't understand what someone else has said, try asking for clarification.
    - If you notice wording that is confusing in an assignment or from me (the instructor), ask for clarification so I can fix it for everyone.
- Focus on impact first, not intent. If something you communicate has a negative impact (hurts someone for example), try to understand the impact and change your behavior first, before communicating what your intent was. Curious about this idea? Read this Scientific American blog post.

Week (class dates)	**Lecture Day and Topic** TTh 11am-12:30 pm in Lark 2004	**Lab Chapter and topic** Sec 5006 T, Sec 5011 Th 7:30-10:30 am in 1869	**Assignments Due (date due)** late work accepted until unit close date unless noted in *italics*	**Reading**
1 (1/16–18)	T. Intro and syllabus Th. science and the scientific method	No lab	• Welcome survey from week 0 module (1/28) o *no late work accepted* • Discussion: introduction video (1/28)	ch. 1.1, 1.2, UCMP Understanding Science
2 (1/23–25)	T. exploring the elements Th. water properties and pH	1: Biological Concepts	• success activity 1 (2/4) • Lab Quiz 1 (1/28)	ch. 2.1–2.2
3 (1/30–2/1)	T. biological polymers Th. cell diversity	2: Water	• Lab Quiz 2 (2/4) • Discussion: water (2/4)	ch. 2.3, 3.1–3.3
4 (2/6–8)	T. energy and membrane transport Th. Scientific Claims Overview, Asking the right Question	3: Enzymes	• Lab Quiz 3 (2/11) • Scientist spotlight 1 (2/11) • Scientific Claims Overview and Canvas Quizzes (2/18)	ch. 3.4–3.6, 4.1
5 (2/13–15)	T. **Unit 1 Exam** Th. *campus closed, no class*	4: The microscope and cells (T sec only)	• **last day to turn in Unit 1 work (2/18)** • Scientific Claims: Paraphrasing Discussion post (2/25) o *no late work accepted*	none
6 (2/20–22)	T. genetics Th. mitosis and meiosis	4: The microscope and cells (Th sec only)	• Discussion: misconceptions original post (3/3) • self-assessment 1 (2/25) o *no late work accepted*	Ch. 8.1-8.3, 6.1-6.4, 7.1-7.2
7 (2/27–29)	T. replication, transcription, translation Th. gene regulation and biotechnology 1	**Lab Exam 1** and microscope practice	• success activity 2 (3/3) • Discussion: misconceptions reply (3/10) • Scientific Claims: the Claim (3/10) o *no late work accepted*	ch. 9.1-9.5, 10.1-10.2
8 (3/5–7)	T. gene regulation and biotechnology 2 Th. microevolution	5: Mitosis and Microscope skills demo	• Lab Quiz 5 (3/10) • Scientist spotlight 2 (3/17)	ch. 11.1-11.3

9 (3/12–14)	T. macroevolution Th. **Unit 2 lecture exam**	6: Meiosis	• Lab Quiz 6 (3/17) • Scientific Claims: Find out more (4/14) o *no late work accepted* • **last day to turn in Unit 2 work (3/17)**	ch. 11.4-11.5, UCMP Understanding Evolution
3/18–22	*Spring break!*			
10 (3/26–28)	T. cellular respiration and photosynthesis Th. animal reproductive diversity	7: Genetics and Evolution and natural selection	• Lab Quiz 7 (3/31) • self-assessment 2 (3/31) o *no late work accepted*	Ch. 4.2–4.3, 5.1–5.3, 18 intro and 18.1
11 (4/2–4)	T. homeostasis and the digestive system Th. immune system	**9 am lab clinic** and progress meetings (both sections welcome T/Th)	• Success Activity 3 (4/7)	ch. 16.1-16.2, 17.2-17.4
12 (4/9–11)	T. Prokaryotes Th. Protists	**Lab exam 2,** The Claim groupwork	• scientist spotlight 3 (4/14)	ch. 12.1–12.2, 13.1–13.3
13 (4/16–18)	T. Fungi Th. Review	8AB Protist and pond water	• Lab Quiz 8 (4/21) • Scientific Claims: Evidence, logic (5/5) o *no late work accepted*	Ch 13.4
14 (4/23–25)	T. **Unit 3 lecture exam** Th. Plant Diversity	9: Plant Kingdom	• Lab Quiz 9 (4/28) • **Last day to turn in Unit 3 work (4/28)**	Ch 14.1-14.4
15 (4/30–5/2)	T. Animal Diversity Th. Ecology	10: Fungi Kingdom	• Lab Quiz 10 (5/5)	Ch. 15.1-15.6, 19.1-19.4
16 (5/7–9)	T. Energy and nutrient cycles Th. conservation and biodiversity	11: Animal Kingdom	• Lab Quiz 11 (5/12)	Ch. 20.1-20.2, 21.1-21.3, Armstrong *et al.*
17 (5/14–16)	T. review Th. Cumulative Final Exam	**Lab exam 3**		none

18 (5/21)	Scientific Claims resubmissions due Tuesday 5/21, 10am	No lab	• post semester survey (5/24) • teaching evaluation (5/24) • **last day to turn in any course work (5/24)**	none