INTRODUCTION TO PRINCIPLES OF BIOLOGY
CLASS SYLLABUS
(Monday-Wednesday)

INSTRUCTOR: Robin Fautley, Ph.D.

Office Hours: Monday 2:00 – 3:00 PM
Tuesday 9:45 – 10:15 AM and 1:00 – 2:00 PM
Wednesday 2:00 – 2:30 PM (except 2nd Wednesday)
Thursday 12:30 – 1:00 PM or by appointment

Office: Baker Hall Room 1818
Phone: 707-527-4523
E-mail: rfautley@santarosa.edu
Web Site: https://santarosajc.instructure.com/courses/24786

INSTRUCTIONAL AIDE: Debbie Eakins
Office: Room 1869A Baker
Hall Phone: 707-521-7842
E-mail: deakins2@santarosa.edu

LECTURE HOURS:

Monday-Wednesday	**9 AM – 10:30 AM**	**Baker Hall Room 2004**

LAB INSTRUCTORS / HOURS (Day):

Monday (1000)	11 AM – 2 PM	Baker Hall Room 1869 or
Wednesday (1001)	11 AM – 2 PM	Baker Hall Room 1869

TEXTS (REQUIRED):

Taylor, et.al., 2018, **Biology Concepts and Connections**, 9th edition, Benjamin Cummings
Santa Rosa Campus, **Biology 10 Laboratory Manual**

AVAILABLE ONLINE (see Canvas):

Required – **Biology 10 Study Guide and Biology 10 Glossary**
Optional – **Lecture Notes**

SUPPLIES:

Required for Lecture Exams – 5 Scantrons & #2 pencil (Bring me a scantrons and I will keep them for you)

STUDENT LEARNING OUTCOMES:

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

1. Apply the scientific method to investigating and evaluating biological phenomena.
2. Summarize the concept of evolution including the historical development, evidence and mechanisms, and apply these to patterns of biodiversity.
3. Integrate basic principles as they apply to biological systems, such as cellular processes, anatomy, physiology, genetics, ecology, and evolution.
4. Investigate how humans are impacted by ecological processes and relationships and how humans affect these.
5. Perform laboratory techniques, including microscopy, with a high level of expertise without assistance or instruction.

Week/Date		Lecture Topics	Reading	Weekly Lab Schedule
1.	8/21	Introduction Levels of Biological Organization	Ch. 1	**1. Basic Biological Concepts**
	8/23	Chemistry / pH	Ch. 2	
2.	8/28	Macromolecules (Carbohydrates / Lipids / Proteins)	Ch. 3	**2. Water**
	8/30	Cell Structure & Function: / Surface Area Organelles/Cytoskeleton	Ch. 4	
3.	9/4	**Labor Day – No Classes**		**No Lab Monday** ***Study Skills Workshop** ***11:00am-12:30pm***
	9/6	Cell & Membrane Structure Metabolism	Ch. 5	
4.	9/11	Enzyme Function Cell transport	Ch. 5	**3. Enzymes**
	9/13	Cell Respiration	Ch. 6	
Fri	9/15	** ***REVIEW: LECTURE EXAM 1 **10:00 – noon***		Lark Rm 2004
5.	9/18	Photosynthesis - *End Lecture Exam 1* Nucleic Acids: DNA & Replication	Ch. 7 Ch. 3/10	**4. Microscopes / Cells** *Microscope Quiz* **Due: Classification Homework**
	9/20	**Exam 1: Chemistry & Cell Biology**		
Fri	9/22	***Study Skills Workshop** 10:30AM – noon***		Lark Rm 2004
Fri	9/22	***Lab Exam 1 Self-Guided Review** 9:00AM-2:00PM***		Baker Rm 1849
6.	9/25	Molecular genetics: Protein Synthesis	Ch 10	**LAB EXAM #1**
	9/27	Cell Division: Mitosis	Ch. 8	
7.	10/2	Meiosis /Mendel Introduction	Ch 8	**5. Mitosis /***Mitosis Quiz*
	10/4	Mendelian / Post-Mendelian Genetics	Ch. 9	
8.	10/9	Autosomal Linkage, Sex Linkage	Ch. 9	**6.** Meiosis Lect. Chromosomal Aberrations
	10/11	Intro to Microevolution & Darwin Variation and Adaptation	Ch. 13	
9.	10/16	Evidence for Evolution Population Genetics	Ch. 13	**7. Genetics Problems** *Genetics/Meiosis Quiz*
	10/18	Genetic Drift / Gene Flow / Types of Selection / Reproductive Isolation	Ch. 13 Ch. 14	
Fri	10/20	** *REVIEW: LECTURE EXAM 2 ** 9:30-11:30am*		Lark Rm 2004
10.	10/23	**Exam 2: Genetics**		**Handout** **Evolution Simulation** Bring Calculator
	10/25	Speciation Types Speciation: Scales, Rates, Radiation	Ch. 14 Ch. 15	
Fri	10/27	***Lab Exam 2 Self-Guided Review**** *9:00 am-2:00PM*		Baker Rm 1849
11.	10/30	Plant Structures, Tissues and Growth	Ch. 31	**LAB EXAM #2**
	11/1	Plant Gas Exchange/Transport Types of Nutrition and Plant Nutrition	Ch. 32 p. 327	
Fri	**11/3**	** **Review: Lecture Exam 3 ** 10:30AM-12:30 PM**		Lark Rm 2004

Week	/Date	Lecture Topic	Reading	Weekly Lab Topic
12.	11/6	**Exam 3: Evolution**		**8A. Protists**
	11/8	Animal / Human: Digestion Animal Nutrition	Ch. 21	**8B. Pondwater**
13.	11/13	Animal / Human: Gas Exchange	Ch. 22	**9. Plants**
	11/15	Animal / Human Transport	Ch. 23	
Fri	11/17	***** Review: Lecture Exam 4 **** *9:30-11:30 AM*		Lark Rm 2004
14.	11/20	The Biosphere Ecosystems: Energy & Water Cycle	Ch. 34 Ch. 37 (p. 754-762)	**10. Fungi / Prep Field Trip**
	11/22	**Exam 4: Physiology**		
15.	11/27	Ecosystems Cycles – Carbon, Nitrogen Aquatic Environments	Ch. 37 Ch. 34	**Appendix 1 and Handout Ecology Field Trip** (Meet onsite 10:45-1:45) *Read: Treatment Plant Appendix*
	11/29	Terrestrial Environments / Biomes	Ch. 34	
16.	12/4	Population Ecology	Ch. 36	**11. Animals**
	12/6	Human Populations	Ch. 36	
Fri	12/8	*****Lab Exam 3 Self-Guided Review***** *9:00AM-2:00PM*		Baker Rm 1849
17.	12/11	Community Interactions	Ch. 37 (p. 742-753)	**LAB EXAM #3**
	12/13	Community Dynamics Paradigms and Paradigm Shifts	p.304-306 Ch. 37	
Mon	12/18	***** Review: Final Exam **** *10:00-12:00 AM*		Baker Rm 1869
Wed	12/20	**FINAL EXAM: 7:00 – 9:45 AM**		

LAB BREAKS: Generally, no formal break time will be provided during lab, however students are welcome to take breaks as needed.

ATTENDANCE: Required. Missing class, tardiness, taking repeated lecture breaks, or leaving class early will affect your attendance grade. Do not schedule appointments during lecture or laboratory time. **Call or e-mail** if you cannot attend due to illness or other emergency. Repeated occurrences will result in your being dropped (excessive absence is defined as greater than 10% of class time).

EMERGENCY EVACUATION PLAN: In the event of an emergency during class that requires evacuation of the building, please leave the class immediately, but calmly. Our class will meet on the lawn between Baker, Beck, and Shuhaw Halls to make sure everyone got out of the building safely and to receive further instructions. If you are a student with a disability who may need assistance in an evacuation, please see me privately as soon as possible so we can discuss an evacuation plan. Campus Emergency Guidance is available at: http://www.santarosa.edu/administration/college-safety/emergency-preparedness/
To report an emergency on campus CALL CAMPUS POLICE AT 527-1000. Do not call 911.

CELL PHONES & COMPUTERS: Students may not use phones for calls or texting, or use the internet during class! You may record lectures. **Turn off cell phones sound** during class! Do not leave lecture to take a call or text! Students who use their computers or phones for internet, use phones for calls or texting, or whose phones make disruptive sounds, will be docked class participation points.

GRADES: TEST or ASSIGNMENT		EACH	TOTAL
Weekly Online Quizzes (highest score on 10 of 12 quizzes)		10 pts	100 pts
Lab Exams (3):	1. Scientific Method, Water, Enzymes, Microscope, Cells	100 pts	300 pts
	2. Mitosis, Meiosis, Genetics, Evolution	100 pts	
	3. Protists, Fungi, Plants, Animals	100 pts	
Lecture Exams (4):	1. Chemistry & Cells	100 pts	400 pts
	2. Physiology	100 pts	
	3. Genetics	100 pts	
	4. Evolution	100 pts	
Final Exam:	5. Ecology	100 pts	200 pts
	Ecology Field Trip	~30 pts	
	Comprehensive (Lecture)	~70 pts	
Lab Work:	1. Classification Homework	5 pts	110 pts
	2. Microscope Quiz	15 pts	
	3. Mitosis Quiz	10 pts	
	4. Meiosis / Genetics Quiz	20 pts	
	5. Pondwater Drawings	12 pts	
	6. Online Practice Lab Quizzes	48 pts	
Participation:	Lecture/Lab Assignments (30), Study Skills (10), Attendance (20), & Participation/Lab Prep (30)		90 pts
			1200 pts

Grades:	**100 - 90%**	**A**
	89 - 80%	**B**
	79 - 70%	**C**
	69 - 55%	**D**
	54 - 0 %	**F**

EXAM MAKE-UP POLICY:

LECTURE EXAMS: There are **NO** makeup exams, however, if warranted, you may arrange to take a lecture exam in ***advance*** (adequate notice must be given).

LAB EXAMS: There are **NO** makeup Lab Exams, however ***with advanced permission***, you may schedule your lab exam during my other Biology 10 lab during the same week.

NOTE! If you miss an exam for ANY reason you will receive a zero for that exam.

STUDENT CONDUCT: We will conduct ourselves in a manner which reflects our awareness of common standards of decency and the rights of others. All students are expected to know their "Rights, Responsibilities, Policies and Regulations" outlined in the College Catalog (https://admissions.santarosa.edu/sites/admissions.santarosa.edu/files/2017-18%20SRJC%20College%20Catalog.pdf also see the District Policy/Procedure on Student Conduct 8.2.8 and 8.2.8P (at: http://www.boarddocs.com/ca/santarosa/Board.nsf/Public?open&id=policies) and adhere to it in this class. Students who violate the code may be suspended from 2 classes and referred to Vice President of Student Services for discipline.

RESPECT: The best way to learn is through active participation; therefore, we respect others: by being on-time, listening actively when others speak, and by being polite even when we disagree with another's viewpoint. Students should avoid dominating discussions or making excessive commentary and/or asking tangential questions that would be more appropriate for office hour discussions.

SPECIAL CONSIDERATIONS: If you have any special needs or concerns please do not hesitate to let me know. We will be working in a hands-on environment; therefore challenges may arise that are not associated with a lecture class. Please let me know if something makes you uncomfortable.

Sept

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES: If you need disability related accommodations for this class, such as a note taker, test taking services, special furniture, use of service animal, etc., please provide the Authorization for Academic Accommodations (AAA letter) from the Disability Resources Department (DRD) to me as soon as possible. You may also speak with me privately during office hours about your accommodations. If you have not received authorization from DRD, it is recommended that you contact them directly. For more information visit: https://drd.santarosa.edu/students

SPECIAL ASSIGNMENTS:

1. **WEEKLY ONLINE LECTURE QUIZZES**: 100 pts
   Each week (except most Lecture Exam weeks) you are required to complete a timed online quiz that covers the previous weeks' lecture material. The quiz must be completed by 11:59 PM Sunday night. You may take the practice version of the quiz until you are satisfied with your performance. Questions will change each time you take the quiz. When you feel you are ready switch to the graded version. **You may only take the graded quiz ONCE** and it must be completed within 10 minutes to earn full credit for your work. There will be 12 weekly quizzes, 10 will be counted in your grade, the lowest scores will be dropped. Each quiz is worth 10 points for a total of 100 points (equal to a lecture exam). See Canvas for the quiz links.

2. **PRACTICE ONLINE LAB QUIZZES** 48 pts
   Each week's lab will have a practice quiz to test you on your comprehension and recall. After thorough exam preparation for the lab, to help test your readiness, quiz yourself and determine which concepts need more attention. Plan to repeat lab quizzes several times. Repeated attempts will help you be prepared for the lab exam. You will get a different set of questions for each attempt. The version of the lab exam practice quizzes that combines all the lab material for that exam will be very similar to the lab exam. Your grade will be based on the highest earned practice quiz score.
   (Points: 3 max for each lab quiz; 6 max for combined labs).

3. **STUDY SKILLS WORKSHOP** 10 pts
   This is an opportunity to enhance your learning skills by attending a ~90 minute study skills workshop (see schedule for dates). Please plan to attend the session your schedule allows. This session will address learning strategies. Students attending and completing the assignment will earn 10 participation points. *The assignment, self-evaluation, and reading material is available on Canvas.*

GENERAL MATERIALS AND ASSIGNMENTS:

Participation & Effort: Ultimately your success in school (or a job) will result from your willingness to be actively engaged in your work. 90 points will be given for your active participation in lab and lecture. This includes: attendance and staying until the end of class; attentiveness, participation in groups and completion of individual assignments; and completion of laboratory preparation assignments.

Textbook Reading: Read your text before coming to a lecture on that topic. This will help you understand the lectures and help you keep up with the pace of the lecture. Read and learn thoroughly the pages in your text that refer directly to lecture material or study guide questions. Material not covered in either of these ways should be looked upon as reference material only.

Study Guides and Glossaries (available on Canvas): Use the glossary to become familiar with the terms. Give thorough answers to study guide questions that you understand, not simply a repetition of presented material! Organize your thoughts, do not attempt to squeeze them on the question sheet. You may find it useful to make flash cards. Keep up with these questions (after each lecture), this is your guide to learning!

Lecture Notes (optional – available on Canvas): Many students find using these notes, along with their own notes, the textbook, and the study guide/glossary very helpful. These notes also help students who find it difficult to keep up with note taking in class. Notes will be made available the night before the lecture.

Laboratory Material: The Lab Manual is used to test lab concepts. Answer all questions carefully. Unless indicated, lab material may be helpful for lecture exams, but will not be directly tested.

Rule for Success or How to Avoid These Pitfalls:

If you are having problems keeping up with class please come to see me before you get too far behind!

1. Read assigned pages before you come to class. This will help you understand and keep up in lecture. Attend every class and stay through the end of the period. Be alert and take good notes.
2. **As soon as possible after every class review and organize your notes** and add extra notes from your reading. Study for understanding concepts, not just memorization of facts. Review vocabulary terms and write definitions of those that are unfamiliar. The unfamiliar ones you know you need to look up, but can you really define the familiar terms? Write down any questions you have on the class material that day. Try to answer your own questions if you can, using the textbook or support materials. If you can't find the answers save the questions to ask the instructor or classmate.
3. **Use the class study guide**, which includes learning objectives/questions for each topic. The Study Guide questions tell you what you are expected to know for the midterms. After each class, use lecture notes and the textbook to answer all the questions to summarize the information. **DO NOT leave this until the weekend or night before the midterm**! Having a regular study partner or group can be very helpful; that way you can work through the questions together and compare notes. Before taking the exam be sure to practice answering study guide questions in the style they will occur on the exam.
4. **Look for the deeper meaning/context of material.** Try to link new topics with previous ones. Fill out study tables in the lab manual. Look for patterns that may emerge. How do concepts tie together? Draw "big picture" diagrams or concept maps to show the linkages.
5. **Test yourself with a study partner**. Ask questions of each other. **If you say: "I know it, but I can't explain it," then you don't know it. "Knowing" is the ability to explain to others, not the ability to understand when others explain to you.**
6. **Use the lab manual:** the manual contains material you should learn and questions to help you comprehend the material. Lab material complements the lecture material and will be examined in lab quizzes and lab exams. Extra time in lab may also be needed to review slides and other materials.
7. **Use other resources**: use your class online resources, practice using online lab quizzes, YouTube videos, Google images and other web-related materials. If you have a new textbook you have an Access code to the Mastering Biology website, which has practice tests, animations, videos, MP3 mini lectures, etc. If you find something especially helpful, please share your discovery with your classmates and me.
8. **Be an active learner:** if you do not understand a concept, make a concerted effort to overcome the obstacle. Ask questions. You can ask in class, or ask your study partners, or visit me in my office hours. Gather more information: if your textbook is unhelpful, try the internet.

Above all, determine to do your very best in this class!