BIOLOGY 10: PRINCIPLES OF BIOLOGY
COURSE SYLLABUS FALL 2019, SECTIONS 0683 / 0688

Instructor: B. Joy Erickson McNally, Ph.D.
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Office Hours:
M/W 10:30 AM – 11:30 AM
or by appointment

Instructional Aide: Debbie Eakins
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Office: 1869A Baker Hall

Lecture: 2004 Lark Hall
M/W 12 PM – 1:30 PM

Lab: 1869 Baker Hall
M or W 2:30 PM – 5:30PM

Required texts and supplies:

Bio 10 Lab Manual (Revised F18)
Campbell Essential Biology with Physiology (4th, 5th, or 6th edition)
- 4th edition ISBN: 9780321772602
- 5th edition ISBN: 9780321967671
- 6th edition ISBN: 9780134711751s

5 100 question Scantron forms and a #2 pencil for lecture exams
Simple calculator (no graphing calculators or phones)

Additional Resources:

Lecture outlines, videos, animations, etc. available on Canvas

Course Description: This is an introductory course intended to introduce students to basic topics in biology including: scientific inquiry, ecology and evolution, organismal form and function, chemistry of life, cell and molecular biology, genetics, and biodiversity.

Course Objectives: 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.

OUR RESPONSIBILITIES: Both instructor and students have serious responsibilities in this or any course. **Mine:** to conduct our class in a manner that encourages mutual respect, honorable behavior, and learning, thereby promoting student success; to provide information, stimulation, and an atmosphere in which you can find that biology has meaning, relevance, is exciting and fun, and to help you earn the grade you seek. **Yours:** to read and understand this syllabus thoroughly and to clarify any unclear parts; to attend and to participate attentively and actively in both lecture and lab, to study appropriately and regularly, and to seek help from me or others at the first sign of a problem; to check your email and our website often.

If you are having trouble keeping up in class, please come see me before you get too far behind!

TENTATIVE CLASS SCHEDULE

WEEK	DATE M/W	LECTURE TOPIC(S)	TEXT CHAPTER(S)	LAB TOPIC(S)
1	8/19	Welcome & Intro to Biology	Ch 1	Lab 1: Biological Concepts
	8/21	Essential Chemistry	Ch 2	
2	8/26	Molecules of Life	Ch 3	Lab 2: Water
	8/28	Intro to Cells & Microscopy	Ch 4	
3	9/2	**Labor Day Holiday (no classes)**		No Labs
	9/4	Cell Structure & Function	Ch 4	
4	9/9	Cellular Energy & Enzymes	Ch 5	Lab 3: Enzymes
	9/11	Cellular Respiration	Ch 6	
5	9/16	Photosynthesis	Ch 7	Lab 4: Microscopes / Cells
	9/18	**Lecture Exam I: Chemistry & Cell Biology**		
	9/20	*Walk-in Lab Exam Review 9 AM - 2 PM*		
6	9/23	Cell Reproduction	Ch 8	**Lab Exam I**
	9/25	Mendelian Genetics	Ch 9	
7	9/30	Post-Mendelian Genetics	Ch 9	Lab 5: Mitosis
	10/2	DNA Replication & Protein Synthesis	Ch 10	
8	10/7	**Lecture Exam II: Genetics**		Lab 6: Meiosis
	10/9	Intro to Evolution	Ch 13	
9	10/14	Microevolution	Ch 13	Lab 7: Genetics
	10/16	Macroevolution	Ch 14	
10	10/21	**Lecture Exam III: Evolution**		Lab Handout: Evolution
	10/23	Plant Tissues and Function	Ch 16 & 28	
	10/25	*Walk-in Lab Exam Review 9 AM - 2 PM*		
11	10/28	Plant Nutrition	Ch 29	**Lab Exam II**
	10/30	Animal Diversity	Ch 17	
12	11/4	Animal Diversity	Ch 17	Lab 8A/B: Protists and Pond Water
	11/6	Animal Nutrition / Gas Exchange	Ch 22	
13	11/11	**Veterans Day Holiday (no classes)**		No Lab
	11/13	Human Digestion / Circulation	Ch 23	Lab 10: Fungi
14	11/18	**Lecture Exam IV: Physiology**		Lab 9: Plants
	11/20	Climate & Biomes	Ch 18	
15	11/25	Terrestrial Biomes	Ch 18	Lab 10: Fungi
	11/27	Aquatic Biomes	Ch 18	No Lab
16	12/2	Ecosystems	Ch 20	Lab 11: Animals
	12/4	Community Structure	Ch 20	
	12/6	*Walk-in Lab Exam Review 9 AM - 2 PM*		
17	12/9	Community Dynamics	Ch 20	**Lab Exam III**
	12/11	Population Ecology	Ch 19	
Final Exam: 12/18 10 AM – 12:45 PM				

Walk-in Lab Exam Reviews: These are self-guided reviews with sample questions and examples from labs. Ms. Debbie Eakins is generally there 9-10:30 AM and 1-2 PM to assist you. Please bring your lab manual and notes. This is an excellent time for study groups!

GRADING

GRADE ITEM	TOPIC / FREQUENCY	EACH	TOTAL
Lecture Exams	I: Chemistry & Cell Biology	100 points	400 points
	II: Genetics	100 points	
	III: Evolution	100 points	
	IV: Physiology	100 points	
Lab Exams	I: Scientific Method, Water, Enzymes, Cells	100 points	300 points
	II: Mitosis, Meiosis, Genetics, Evolution	100 points	
	III: Protists, Fungi, Plants, Animals	100 points	
Final Exam	V: Ecology	100 points	200 points
	Cumulative (Lecture)	100 points	
Lab Work	Lab Manual	20 points	50 points
	Evolution Lab	10 points	
	Homework: Classification & Taxonomy	10 points	
	Microscope Demonstration	10 points	
Review Quizzes	Lecture, Lab, and/or Online	varies	100 points
Participation	Lecture & Lab Attendance	25 points	50 points
	Participation, Lab Preparation & Cleanup	25 points	
Extra Credit (TBD)	Optional	TBD	[up to 30 points]
COURSE TOTAL			1100 points

- Final grades are calculated as a percent of the total possible points as follows:

100 – 90%	A
89 – 80%	B
79 – 70%	C
69 – 55%	D
54 – 0%	F

GENERAL POLICIES

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 do not generally come up in a lecture classroom. During labs, close physical proximity and possible physical contact may occur (especially microscope labs). Please let me know something makes you uncomfortable.

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

Academic Integrity: Students caught cheating, plagiarizing, falsifying attendance records, or violating testing procedures will be penalized and will not receive credit for their assignment. Anyone who assists someone else in violating the conduct code will also be penalized. Such violations will result in an academic integrity report and they may result in disciplinary action that could result in a two class suspension and in cases of egregious violation referral to the Dean Student Affairs for discipline action. *Although you can discuss class assignments, what you turn in must be entirely your own work!*

Code of Conduct: Students are expected to promote an environment of respect, tolerance and inclusivity in the classroom. Coming to class late or leaving early is disruptive; if this is unavoidable, please notify me in advance and

choose appropriate seating. Students who disrupt the learning of others or act in a disrespectful manner may be asked to leave the classroom.

COURSE POLICIES:

Lecture Attendance: Sign in sheets will be provided at the front of the room before each lecture. Please sign in when you enter the room. Arriving more than 10 minutes late will count as an absence.

Lab attendance directly affects your grade in this class. The lab is an integral part of this course. You are expected to read the lab manual assignment prior to coming to lab. Please bring your entire lab manual to each lab; we sometimes need other sections other than the current week. Safety protocols will be explained in lab on the first day. Failure to follow safety procedures or mishandling of laboratory equipment will result in suspension of up to two lab periods. It is important to arrive to lab on time to receive the instructions for that day's lab and to receive points for any assignments or quizzes.

Lecture Exams: There are NO makeup lecture exams, however, you may arrange to take a lecture exam in advance (adequate notice must be given).

Lab Exams: There are NO makeup lab exams. These are set up for all sections ONLY during the scheduled week. Students arriving late to lab during an exam or quiz will not be given additional time. An unexcused absence during an exam or quiz will result in a zero score.

Note! Anyone missing the FINAL EXAM (for any reason) may fail regardless of previous scores.

Exam Review: Once graded, scores will be posted to the course website and your exams will be filed in my office and available for review during the semester. After each exam is graded, you have one week to hand in any rebuttals, in writing, concerning the grading of that exam. After that week, your grade will remain as given. Once final course grades are submitted, students have two months to request an appointment to review any exam for the previous semester. After that time, exams will be shredded.

Cell Phones: PLEASE be sure they're turned off or silenced during class (with vibrate off)! Cell phone and similar interruptions will not be tolerated in lecture or lab. Under NO circumstances may you answer a phone call and talk in class, except in an emergency (let me know if you're expecting an important call).

Laptops, etc.: Use of laptops, iPads, etc. during class is permitted ONLY for taking class notes. You may not have an open device on which you are browsing the web, viewing pictures, emailing, texting, etc., nor may you do these things while you are taking notes. If you use your laptop or other device in this way you will lose the option of using it in class. **All electronic devices must be turned off and out of sight while taking exams and during the review of exams. Failure to do so may result in a zero score on your exam.**

iClickers [TBD, see "Review Quizzes' below]: You will be provided with an iClicker to use in lecture and/or lab. You must use the same iClicker at every class, failure to do so will result in loss of points. You will earn half of these points for participation and the other half for answering correctly. You cannot make up these points if you are absent.

ASSIGNMENTS:

Textbook Reading is not required, however, it will reinforce lectures and help you keep up with the pace of the class.

Lab Manual, Evolution Lab, Homework: These will be collected and during the semester (Homework: Week 3, Lab Manual: Weeks 9 and 17, Evolution Lab: Week 11). I will be looking for neatness, completeness, correct answers (as appropriate) and evidence of thought.

Review Quizzes: The format of review quizzes is dependent on the availability of the departments' iClickers (TBD). If iClickers are available, quizzes will take place during lectures. If iClickers are unavailable, quizzes will take place at the start of lectures and/or labs or may be held online. A revised version of this syllabus will be made available as soon as the availability is determined.

Attendance, Participation, and Effort: Ultimately your success in school (or a job) will result from your willingness to be actively engaged in your work. A total of 50 points will be given for your attendance and active participation in lab and lecture. This includes: attentiveness, participation in group and individual exercises, attendance, on time arrival, and staying until the end of class.

Extra Credit Opportunities: Submit multiple choice quiz questions (for more info, see course website), miss $\leq$2 class

meetings, attend and submit a written summary of biology-related community events (e.x. a "Discover Nature" Lecture at the Pepperwood Preserve), and additional assignments TBA. Point amounts vary and will be announced in class and on the course website. You may earn up to 30 points of extra credit this way.

IN CASE OF EMERGENCY:
Evacuation/Fire Alarm Sounding: Audible alarm means exit the building. We will meet in the grass area between Lark and Baker Hall and I will take roll. DO NOT LEAVE the designated area before you have been accounted for.
Earthquakes: Take shelter under desk, table or door frame to protect yourself. After shaking stops – if there is damage – collect your belongings and evacuate the area. Again, we will meet in the pre-determined area and I will take roll.
Power Outage: If there is a power outage for longer than 10 minutes, we will evacuate the building and meet at our predetermined area. At this point we will attempt to locate another classroom with power to resume class.
Reporting an Emergency: Call the Junior College Police Dept. dispatch at 527-1000.

HOW TO SUCCEED IN BIO 10: Although this is an introductory course, you will be asked to learn a great deal of new terminology, processes, and concepts. It is not an easy class, but it can be stimulating, highly interesting, and relevant to your daily lives and career goals. Here are some suggestions for succeeding in this class:

1. Attend all lectures and labs. If you miss a lecture or lab, you miss not only the points for any quiz or iClicker points that day, but you miss material that will be on the next quiz / exam! It may also help to sit near the front in lecture and lab: You will see and hear better and be more fully engaged in the class.
2. Read recommended sections of the textbook. There is a lot of overlap between lecture and the textbook, but this is intentional. Before lecture, skim the assigned reading to get an idea of what we will be discussing. After lecture, thoroughly read the assigned chapter(s) and take notes, draw diagrams or sketches, etc. and look for the overlap (repetition is key to learning!) Avoid excessive highlighting: you will gain much more by thinking, talking, and writing about key points and concepts.
3. Study / review early and often. College policy suggests spending 2-3 hours outside of class for each hour spent in class. That means 6-9 hours per week just for Bio 10 lecture! Do not put off your studying until exam time! As soon as possible after every class, review, re-write, and organize your notes. Study for understanding concepts, not just memorization of facts and try to focus on the 'big picture'.
4. Find a study partner or small group. Discuss the material with others and take turns devising and answering questions that you would anticipate being on an exam. If you can explain/teach a topic to someone else, then you're doing well.
5. 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, in office hours, or by sending me an email. You can also check your textbook or look on the internet (e.x. YouTube videos, Wikipedia pages, Google images, etc.).
6. Visit our Canvas course website regularly for announcements, assignment reminders, extra materials, relevant videos or animations, etc. that will help to keep you engaged and connected with the class.
7. Ask questions in class at any time. I don't mind being (politely) interrupted! It's very likely that others will have your same question. You will never be shamed for asking a question.
8. Pay attention to biology in your life: Try to link what you are learning to your everyday life – your environment, news media, etc. Look for and bring to my attention news items, radio/TV programs, etc. of relevance to our class. Some of these could be suitable for extra credit.
9. See me! Come see me for help – the sooner the better! I'm willing to answer any questions that you may have on the material or offer suggestions on how to improve your note-taking skills. If you miss a class, I will be happy to meet with you to go over the missed material, but only after you have gotten and reviewed the notes from another student.