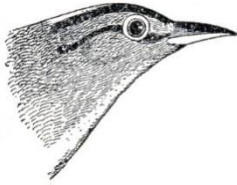


Spring 2015

BIOL 1020 World of Biology Lab

Dr. Fleming



**BIOL 1020-003: "World of Biology"**  
CSU Stanislaus  
Course Syllabus



**Instructor:** Dr. Michael Fleming

**Phone:** (209) 664-6923

**Office Hours:** Tuesdays 11-12, Wednesdays 2-3, Thursdays 10-11, or by appointment

**Office:** 269 Naraghi Hall

**Email:** mffleming1@csustan.edu

**Labs:** Tuesdays, 2-4:50pm, 223 Naraghi Hall (a.k.a N 223)

**Text:** World of Biology 1020 Laboratory Workbook, 6<sup>th</sup> ed. by Fleming and Stevens (2014). Please bring this text to lab each week. Note also that the lecture textbook from BIOL 1010 may also be useful for labs.

**Course Description:** This course satisfies the lower division area B general education lab requirement, and is intended to provide students with laboratory experience in (1) molecules and cells, (2) genetics, (3) evolution and (4) ecology. These concepts are covered in BIOL 1010, and many students take both courses in the same semester. While this class does parallel BIOL 1010 closely, it is taken and graded separately from BIOL 1010. I will ask you to think at high cognitive levels beyond basic memorization of facts, and how to apply what you learn in this class to choices you make in your life.

**Course Goals:** As this course is a General Education course, the overarching goals of the course are to

1. *Develop the skills and competencies necessary to effectively participate in our society and the world* (this includes demonstrating effective oral and written communication, thinking logically, creatively and critically, applying quantitative reason and skills to solve problems, and use technology effectively to gather and communicate information).
2. *Develop an understanding of the contribution to human knowledge and culture of the biological sciences* (this includes applying the scientific method, demonstrate understanding of living and non-living aspects of the world you live in, of human cultural and scientific endeavors, the structures and institutions that frame human interactions).

More specific to this class, after completing it you should be able to

1. *Demonstrate your ability to think like a biologist;*
2. *Speak & write coherently about biology* with biologists and non-biologists alike;
3. *Apply biological knowledge to make informed decisions* in your life.

**My Teaching Philosophy:** My teaching philosophy is grounded in high expectations, accountability, and belief in appropriate behavior conducive to learning. Five principles guide my teaching philosophy:

1. All students can become lifelong learners.
2. Significant change requires commitment and time.
3. Struggle is a necessary and important part of life.
4. Students must accept responsibility for their learning progress.
5. I will never do for students what students can do for themselves.

That said, I will work hard and use multiple ways of teaching to help you succeed in this course. Hopefully we'll also have a few laughs as we go along.

**Announcements:** Check your email and Blackboard for updates and information.

**Participation and Attendance:** Please arrive to class on time and ready to learn. I expect all students to attend every class session. There is plenty of research that shows final grades are positively correlated with attendance. To this end you will be able to earn points in every class meeting, but cannot make them up if you are absent. Thus, if you miss two or more class meetings, your final grade will be negatively affected! Assignments are due at the start of class. You will talk and work frequently in small groups, and sometimes present your ideas to the entire class. Most importantly, please do not disrupt the learning environment, rights, and property of others. Of course, all gadgets not conducive to learning in the course, such as cell phones/iPods/etc. should be turned off during class. Be honest, hold yourself accountable for your actions, and hold me accountable for mine.

**Respectful Classroom Atmosphere:** This class is a “judgment-free zone” at all times. This means that when you disagree with somebody’s opinion on a subject, you do not have the right to sling insults, raise your voice, or criticize them. I most certainly encourage disagreement on controversial topics, and conversations are livelier if people do disagree on a subject. However, polite civil disagreement and outright hostility are two very different things. I will not tolerate hostility in the classroom, and anyone participating in this behavior will be escorted out of the room and not allowed to return for the rest of the class period.

**Evolution:** “Respect for data, comfort in faith.” Someone much wiser than me came up with this saying. If you can live by it then you’ll be fine in this class. Evolution and natural selection are central tenets of biology and will be critical aspects of this course, openly discussed and referred to frequently.

**Math:** Every biologist uses math and statistics. In this course you will use some math as it applies to biology; this mostly includes making and interpreting graphs, and may also include calculating averages and variation around an average. I will help you and there will be chances to practice. NOTE: a calculator is good for this class, and knowing how to use MS Excel effectively is better.

**Lab Policies:** 1) Safety. 2) Teamwork. 3) Data.

Please demonstrate proper care for and use of lab materials and supplies. A safe lab is a productive lab. Please report any spills, broken equipment or any other safety concerns to me immediately. If you see something, say something!

Like any lab course, this one requires your active participation each week, frequently in group situations. Your lab partners depend on you (and you on them) for your help in working through each lab. This includes proper set up of experiments, data collection, and thoughtful interpretation of results. In most labs you will work in small groups of 2-6 people, but each student is required to hand in their own work, due at the beginning of the next lab meeting.

As per university regulations, students who miss the first lab or have excessive tardies/absences will be dropped from the course. Note that since the lab set-up changes each week, it is very unlikely to make up missed labs. Unexcused absences always result in no points for the week. **Quizzes begin promptly at 2PM.** If you are late you will have less time (or none!) to complete the quiz, so please make every effort to arrive on time.

The final exam for this class is optional! It will be comprehensive and structured similar to lab quizzes.

**Cheating and Plagiarism:** Don’t do it! Your work should reflect your own effort and words. Any verified instance of cheating and/or plagiarism will be unpleasant for all involved.

**Special Accommodations and Recording Lectures:** This course is ADA accessible. Students with documented disabilities should seek special accommodations for all classes through the Disability Resource Services office on campus. If DRS notifies me that you require ADA accommodations, then I will provide them for you, such as permission to record lectures. Otherwise, you have to do it the old-fashioned way with pen and paper. If you record my class in any form (video, audio, still pictures, etc.) without accommodation from DRS, that constitutes intellectual property theft and will be a bad situation for all involved. Student athletes who will miss class for games/matches should have their coach contact me, and I will accommodate your schedule by allowing alternate lab dates with another instructor and/or excusing points missed in class.

**Important Dates:** The last day to add the class is Feb. 4<sup>th</sup>. Census Date is Feb. 23<sup>rd</sup>. This is the last day to drop the course or change your grading option without my signature; it is your responsibility to submit the grade change form to Admissions and Records by 5pm that day. Apr. 21<sup>st</sup> is the last day to change your grading option with my signature. I strictly adhere to the grading option Academic Records has on file for you when I submit final grades. **I will not change grades once final grades have been submitted.**

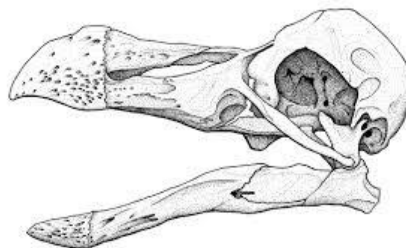
**Grading:** All materials will be graded and returned to you the following lab period. Grades are based on lab write-ups, quizzes, participation, and the optional final exam. No other points are available. Write-ups are graded based on completing all questions, data collection and careful presentation of graphs/diagrams. **I will grade only five lab write-ups over the term; I will not tell you in advance which these will be,** so your best bet is to turn them all in on time. We will go over all lab write-ups and quizzes in class and you will have an opportunity to see a key to check your answers for correctness. Late work will not be accepted except in dire emergencies; you must provide documentation of hardship. All submitted work must be original; photocopies are not acceptable.

Assignment	Points	% of Total Points
12 quizzes x 10 pts. each (lowest 2 scores dropped)	100	41.5% or 36%
5 write-ups x 20 pts. each	100	41.5% or 36%
8 write-ups submitted, not graded, 5pts. each	40	17% or 14%
Final exam, <b>optional</b> , comprehensive	40	0% or 14%
<b>TOTAL</b>	<b>240 or 280</b>	<b>100%</b>

I calculate grades as a function of grade point average (GPA) where A=4.0 and D=1.0 (I will show you an example of this in class). Students find this method fair and equitable. **I give + and – grades** as follows:

4.0-3.8 = A      3.7-3.6 = A-      3.5-3.3 = B+      3.2-3.0 = B      2.9-2.6 = B-      2.5-2.3 = C+  
 2.2-2.0 = C      1.9-1.6 = C-      1.5-1.3 = D+      1.2-1.0 = D      0.9-below = F

CR = 1.6 or higher      NC = 1.5 or lower



## Tentative Lab Schedule:

Week	Date (TUESDAYS)	Activity
1	Jan. 27	Attendance, Syllabus, Pseudoscience
2	Feb. 3	Cells & Microscopes
3	Feb. 10	Scientific Method and Daphnia
4	Feb. 17	Transport
5	Feb. 24	Metabolism
6	Mar. 3	Cell Cycle & Mitosis
7	Mar. 10	Genetics & Meiosis
8	Mar. 17	Phylogenetic Trees
9	Mar. 24	Evolution (outside, bring calculator)
10	Mar. 31	<b>No lab ☺ Caesar Chavez Day ☺</b>
11	Apr. 7	<b>No lab ☺ Spring Break ☺</b>
12	Apr. 14	Plant Adaptations
13	Apr. 21	Animal Adaptations
14	Apr. 28	Population Parameters
15	May 5	Central CA Ecology
16	May 12	Last write-up due, OPTIONAL Final Exam

