

Biology 101: Introduction to Biology Spring 2020 Course Syllabus

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Email:	adam.welday@gmail.com	Lecture:	Tu, Th 8:05-9:30 in Science 136
Office hours:	After lab, or Tu 1:30-4, Th 3-4 in Sci 103	Lab:	Tu or Th 9:40-12:50 in Science 130
Phone (Google Voice):	(818) 925-6092 call/text ok	Websites:	http://profwelday.weebly.com (1 st week)
		Canvas:	http://riohondo.instructure.com

Course Description: Biology 101 is a lower division, non-major's course designed to meet part of the general education science requirements. This course also serves as a prerequisite for several classes in programs related to health sciences such as nursing, dental hygienist, etc. This course is NOT designed to meet science requirements for students pursuing a bachelor's degree with a major in a life science, nor will it satisfy prerequisites for many post bachelor's graduate or professional schools in the life sciences including medical, dental or veterinary programs.

The course is intended to introduce you to the living world around you and your place within it. You will learn how living things function and how members of the living world interact with each other and the environment they live in.

Many students start this class having some experience with biology through high school or other experiences and have already made a conclusion about whether they love it or hate it and sometimes even whether their brains are science/biology capable or not. Everyone here has a brain that is certainly capable of comprehending this material and EVERYONE here can do well in this class if they are open minded, put in the necessary time and hard work, and importantly, develop efficient reading and study skills through consistent use of good reading and study habits. I hope that by taking this class seriously, you will learn to appreciate and love biology and realize how a deeper understanding of the living world can be meaningful to your life even if you pursue seemingly unrelated academic and career goals.

Student Learning Outcomes:

1. Students critique and interpret data presented in appropriate graphical and/or verbal formats.
2. Identify cell structures, their constituent molecules and describe their functions.
3. Demonstrate and apply knowledge of basic principles of chemistry as they apply to biological processes.
4. Define and correctly use scientific terminology in regard to biological organisms and processes.
5. Demonstrate an understanding of evolution and its relationship to the unity and diversity of living things.

Required Materials:

Lecture Text: Campbell Biology: Concepts & Connections, 9th/5th Edition, Taylor, Simon, Dickey, Hogan & Reece from Pearson Publishing. (approx. \$116 new, \$87 used, \$97 rent new, \$51 rent used) I believe for the most part the best price will be found at the bookstore as the version we have is customized and many chapters have been excluded to bring the price down. The edition in the bookstore is the 5th edition for Rio Hondo, but it is a customized version of the concepts and connections 9th edition of the full textbook found anywhere else.

In Class Student Response System: Several possible options and purchase may be required. Several in class activities may require usage of various online services that you will access with a mobile device or laptop and may require an additional cost. If I use this technology, I will give you instructions on how to register within the first 3 weeks.

Lab Manual: General Biology Lab Manual (Rev. Spring 2019) by Cummings (8th edition). This must be purchased at the book store and is less than \$5. You cannot use an old edition because there have been significant changes.

Quiz Forms: Custom quiz forms (not scantrons) will be required (purchase may be required, small fee). I am working on having these available for purchase online or at the book store and may require purchase. For now though, I will provide them. Exams will also have custom forms, but they will be provided for you.

Contacting Me/Office Hours: I want you to feel comfortable contacting me and meeting with me for anything class related. Too often students make a big deal about meeting with professors and feel they shouldn't bother the professor unless they REALLY need help. Please know that you don't need to have done all (or even any) of the reading, have specific questions prepared or have something in particular you want to talk about, so if you want to do better in any way or want to talk to me for any reason, please don't be shy, just contact me or drop in during office hours, really! You can reach me by either calling/texting the phone number above (literally at ANY time, see below) or sending me an email. However, if you text or email with course material questions, I usually prefer responding verbally through the phone or in person, so let me know when and how to best contact you to talk if possible. I will also often be available every day after lab. I know it can be difficult to want to stay after having class for almost 5 hours on lab days, but, I strongly encourage you to stay if you are not doing as well as you like. It is during these times that I can work much closer with each student and tailor discussion appropriately

based on each student's particular strengths and weaknesses and current understanding. I strongly encourage you to contact me if you are having ANY difficulties with the material and AS EARLY AS POSSIBLE! It is much easier to help you during one-on-one sessions or in small groups during office hours than during lecture with so many students each with different backgrounds, learning styles and understanding. Students often don't tend to utilize my office hours until late in the semester when they realize they are not likely going to receive the grade they want but it is often already too late and/or extremely difficult to change their grade dramatically. Again, I strongly recommend getting help early and often if you can use help in any way.

Phone contact: Please feel free to call and/or text me literally ANY time day or night. The number above is a google voice number that I can turn off and on depending on whether I am available. In the past I have discussed mitosis over the phone at 2am because I happened to be up and a student was working nights and couldn't call earlier (don't expect this though ;)). If you text me and/or have to leave a voicemail, please tell me who you are.

Grading: Final grades are determined completely mathematically based on the percentages below. However, I will often adjust grading for each exam and many quizzes prior to releasing results. Adjustments are made based on overall class performance (i.e. not based on any particular student's or set of students' performance). All adjustments are made only if they improve overall class statistics.

	Qty		Points each		Total points	Total%	Percentage	Grade
Reading Quizzes (25, drop 2)	23	x	10	=	230	23.0%	89-100%	A
Midterm Exams	4	x	100	=	400	40.0%	78-88.99%	B
Cumulative final	1	x	100	=	100	10.0%	65-77.99%	C
Lab activities and participation (drop 1)	13	x	8	=	104	10.4%	50-64.99%	D
Post-Lab Quizzes (drop 1)	13	x	12	=	156	15.6%	49.99% and below	F
Surveys and other misc assignments	1	x	10	=	10	1.0%		
Course Total					1000	100.0%		

Final grades: The point breakdown above is just an estimate and is subject to change based on actual number of assignments assigned. For your final grade, this breaks down to about 75% from lecture (about 50% from lecture exams, 23% from quizzes) and 27% from lab. After the 3rd exam and prior to the last day to drop with a 'W' (Fri, Apr 24) the point breakdown will be re-assessed and finalized based on overall class performance thus far and the amount of points remaining in unassigned work and exams. Students will be informed at that time the amount of points remaining and any changes to the grading scheme including any assignments not reflected above but added later. There will be no make-up or extra credit points but I reserve the right to lower grade thresholds, drop extra quizzes, assignments and/or exams based on overall class performance. However, this is at my sole discretion and based on the entire class performance, not individual students: so don't expect to be able to argue for a better grade.

Time Commitment: You are enrolled in a 4-unit college science class with a lab which requires at least 6hrs per week working and studying on your own outside of lecture and lab class times. Students often do not realize the time required to succeed in such a class. If you are taking 12 units that requires a total time commitment of around 36 hrs per week, 15 units requires 45 hrs/week, which is equivalent to a full time job. This is not a made up number to scare you, it is pretty standard for all colleges and universities – Harvard, Cal State LA, UCLA and community colleges such as Rio. Classes are designed so that an average college level student at that campus will require a commitment of approximately 3 times as many hours per week as the units they are taking (including classroom time). As this class is 4 units, that means students should be spending 12hrs/week devoted to this class alone. Since you will be spending approx. 3hrs/wk in class and 3hrs/wk in lab, this means students should be spending 6 hrs/wk reading, reviewing, studying and completing assignments. Most students do not require more than 1-3 hrs/wk reading the content the first time through, so for most weeks, that means you should be spending at least 3+ hrs/wk reviewing lecture notes and studying the textbook. However, if you are struggling with language difficulties, poor reading comprehension and/or inefficient study skills then it may require even more time.

While I truly understand and can sympathize with the difficulties juggling the many other time commitments and responsibilities students may have, it is up to each student to determine whether they can handle the workload or if they should take the class at another time. I am not trying to scare you, I just want you to succeed I have seen too many not succeed because they don't have enough time and/or physical/mental energy for this class.

Reading/ Quizzes/Lecture Activities: In order to succeed you **MUST READ PRIOR TO EVERY LECTURE**. Each lecture will also start with a short quiz based on the reading. I reserve the right to have some reading quizzes assigned online. I try to keep the lectures interactive and that requires that you do some amount of learning on your own outside of class to be able to participate in the activities with your classmates. Some of those activities will be associated with points, so you will be lost and could lose points if you do not read ahead of time. Since students that do the reading and homework tend to do very well on quizzes, the quizzes serve as a reward for keeping up with the work by boosting up their overall grade.

Quizzes: **Most if not all lectures will start with a short quiz**, so please don't be late. If circumstances cause you to be late and you miss a quiz, you will not be able to make it up. Since there are circumstances that may be out of your control, I do drop two quizzes automatically. However, missing more than two quizzes will result in a zero and can start to affect your final grade. Whether a quiz is announced or not, the reading is due prior to lecture as scheduled and you should expect a quiz whether announced or not and whether a reading guide is posted or not, so do the reading and prepare for a quiz at the start of EVERY lecture!

Lecture Activities: Lectures may include one to several interactive activities that are based on worksheets and/or in class questions using a particular online service. To access the service each student will connect to a website to answer questions in real time and overall class results will be displayed. This requires that you have a device that can connect to the internet (cellular or wifi) and that it is charged and ready to use for the entire class period. If keeping your device charged is difficult, consider buying a battery pack that can recharge your device even if you are not near an outlet.

Exams: Exams are mostly multiple choice but also contain some fill in the blank and/or short answer questions. **PHONES MUST BE TURNED OFF AND PUT AWAY DURING ALL EXAMS AND QUIZZES.** The **final will be cumulative** covering all material throughout the course but will be focused on the major concepts from each chapter. **All exams count!** A missed exam is a zero and can result in being dropped from the class if I am not contacted within 24 hrs. **Make-up Exams:** Make up exams will only be given for documentable emergencies and select religious holidays (if notified by the census date). If a documentable emergency does occur, you must contact me within 24 hrs of the exam to schedule a make-up exam and provide proper documentation. Having other obligations such as work and/or family and friend responsibilities is not a valid excuse for missing an exam. You have until the census date: Sun, Feb 9, to notify me of religious observances that conflict with scheduled exams so that alternative arrangements may be made. Make up exams must be arranged with me PRIOR to the absence. If a make-up exam is granted, only one make-up exam will be allowed during the semester. **Make-up exams will be mostly, if not entirely, essay questions** but the exact format is at my discretion. Make-up exams must be taken within 1 week of the originally scheduled exam. There are NO make-ups for quizzes, homework, lab assignments or in-class work

Online Access/Classroom Technology: This class relies heavily on online resources both inside and outside the classroom. Reliable daily access to these online resources is required to keep up with the reading and assignments and complete some classroom activities and assignments. If you do not have access to a computer or device with reliable internet access, you can use the campus computers in the library or elsewhere.

Websites Used: We will be using canvas for most of our class online services. I will be sending out email announcements and post slides through canvas. To login to canvas, follow the instructions at the temporary weebly website. <http://profwelday.weebly.com>

Lab: Labs are meant to give hands on experience applying your knowledge and understanding to concepts learned in lecture and from reading and HW assignments. Therefore, you must be physically present since lab supplies and setups are only available during the scheduled times, there is no way to make up missed labs. If you know you will not be able to make it to lab, you may be able to attend a different lab time if it is cleared a week in advance and approved by the lab instructor of that section. If this is approved, you can only switch a maximum of 2 times. **Each lab will begin with a quiz covering the previous week's lab activity.**

Lab participation and worksheets: Each lab has an assignment with worksheets to be filled out during lab. Once completed, you can bring it to me and I will sign off on it. You will then hand in the lab the following week after completing the quiz. For some quizzes, I may allow YOUR OWN filled out worksheets and/or notes during the quiz, so it is in your best interest to fully think through and complete the worksheets and lab procedures as well as take good notes. Simply going through the procedures and/or just copying other student's work without understanding how to arrive at the correct answer on your own will often result in poor quiz performance. In order to do well in lab, you must think about what you are doing and **WHY**, not just what you did. Lab will almost always run the entire time, so do not expect to ever get out early. If you finish early, you will be expected to use the lab time to help other students and/or for studying for this class only. Don't expect to finish quickly and leave lab early because even if you finish the basic protocol, there are usually other tasks I assign to help further your understanding and/or help your fellow classmates understand further. The lab isn't just about doing, it's about understanding what you are doing and why as well as knowing how it applies to what you have learned in other parts of the course. So this

is your time to explore and deepen your understanding. Furthermore, lab is designed to be a collaborative experience, not just for you and your group but for the entire class.

Attendance/Participation: Attendance is required for every lecture and lab. According to state and campus regulations, if you miss a total of more hours than the hours the class meets per week, you can be dropped or receive a failing grade. You can miss no more than 2 labs or 3 lectures without being dropped from the course or giving a failing grade. You will be dropped or failed if you miss more than 2 labs or 3 lectures EVEN if on the 3rd missed lab or 4th missed lecture has a valid documented excuse. Thus, you should only miss class if you absolutely cannot make it otherwise you risk being dropped or failed if something unexpected and out of your control causes you to miss a 3rd lab or 4th lecture.

Participation points: Not all lectures will have activities but phone usage and other distracted activities can cause you to be docked points (same applies to lab, see above). If there is an activity during a lecture you will not be able to make up that activity if you miss the lecture, so make sure you attend ALL lectures.

Important Enrollment Dates: Last day to add online using an add code: Sun, Feb 9. Last day to drop without a "W" is Fri, Feb 21. Last day to drop with a "W" is Fri, Apr 24. According to new district regulations, you can only attempt a course 3 times. You will not be allowed to enroll a 4th time. If you do not drop before Fri, Feb 21, it will count as an attempt even if you drop at a later date. If you decide to drop the class after Fri, Feb 21, with a "W", you must drop by Fri, Apr 24 to avoid receiving a failing grade in Bio 3.

Cheating: While every college student should know not to cheat, it is not uncommon that some students will try to cheat in some way. While too many of those students that cheat in college classes get away with it, trust me it is not worth the risk. ALL ELECTRONIC DEVICES AND ANYTHING THAT CAN DISPLAY BIOLOGY INFORMATION (PAPER OR ELECTRONIC) MUST BE PUT AWAY. If you are caught cheating and it is reported it will become part of your permanent record. Since your academic record is associated with your SSN it will even show up on some background checks and thereby may influence future employment opportunities. If you are caught cheating I absolutely will file an "Academic Dishonesty Report." I have done it in the past and each time it broke my heart. Please don't break my heart!

Student Success: If you have read this far and haven't already run away screaming to drop the class, I just want you to know that most of these policies are put in place to help you succeed – not just in this class but also in learning skills important as a student in any program or major and in life in general. To some people with more experience as a dedicated student, some of these policies may seem a bit heavy handed. However, in my experience, most students taking this class haven't had much experience as a dedicated college student and/or have taken a long break since they have been. Also in my experience, almost all of the students that struggle but still put in the required time, struggle not because the content is too hard but because they haven't yet developed strong study skills and work habits to learn the content efficiently. Thus, for most students in this course, it is actually more important to learn how to learn efficiently than to just spend time passively reading and trying to memorize "facts." If nothing else, please know that I really do want you to do well and while I won't lower the standards for what should be learned and understood from this course, I will do everything I feasibly can to help you meet and exceed those standards. ...but I need your help to help you, so please contact me as soon as you think you can use ANY help whatsoever.

Course Schedule and Assigned Reading:

Wk	Date	Topic	Reading due <u>PRIOR</u> to lecture
1	Tu	28-Jan	Course Intro, Scientific Thinking, Origins
	Th	30-Jan	Introduction; properties of life
			1-1.6
2	Tu	4-Feb	Overview: Evolution and Nat Selection
	Th	6-Feb	Diversity of life, phylogenetic trees
			1.9-1.10, vids, TBD
3	Tu	11-Feb	Atoms, molecules and cells
	Th	13-Feb	Energy, cellular respiration and photosynthesis
			4.2-4.4, vids, TBD
4	Tu	18-Feb	Overview: DNA, Genes, Cells, Tissues and Organs
	Th	20-Feb	Overview: DNA, Genes, Cells, Tissues and Organs
			1.11, 1.12, vids, TBD
5	Tu	25-Feb	Exam 1
	Th	27-Feb	Chemical Basis of Life
			2.1,2.3,2.5-2.9
6	Tu	3-Mar	Water and life, Biological Molecules
	Th	5-Mar	Carbohydrates, proteins and nucleic acids
			2.10-2.13, 3.1, 3.3, 3.10
7	Tu	10-Mar	Cellular Respiration
	Th	12-Mar	Photosynthesis
			3.4-3.5, 3.7-3.8, 3.12-3.16
8	Tu	17-Mar	Fermentation
	Th	19-Mar	Exam 2
	Tu	24-Mar	Spring break
	Th	26-Mar	Spring break
			6.1-6.3, 6.5-6.9, 6.11
9	Tu	31-Mar	Mitosis
	Th	2-Apr	Meiosis
			7.1-7.2, 7.5-7.10, 7.12
10	Tu	7-Apr	Genetic
	Th	9-Apr	DNA, Replication and Transcription
			8.1, 8.3-8.6
11	Tu	14-Apr	Genetic code and Translation
	Th	16-Apr	Gene Expression and regulation, cancer
			8.11-8.17
12	Tu	21-Apr	Exam 3
	Th	23-Apr	Evolution and Natural Selection
	Tu	28-Apr	Mechanisms and evidence of Evolution
	Th	30-Apr	History of Life
			9.6-9.7, 9.9, 10.2-10.4, 10.5 (optional), 10.6, 10.9, 10.15
13	Tu	5-May	TBD
	Th	7-May	TBD
14	Tu	12-May	TBD
	Th	14-May	Exam 4
15	Tu	19-May	Cumulative Review
	Th	21-May	Final Exam (8:05-10:05am)