

Biology 10 – Introduction to Biology

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Required text: Essentials of Biology w/Physiology, Campbell
Laney College Lab Manual
Recommended → Lecture workbook is available in the bookstore

Description:

This class is an introduction to the science of biology for non-majors. We cover the fundamentals of biology for the non-major: Scientific inquiry, biological chemistry, cell structure and function, DNA and genetics, evolution and ecology, and an overview of living organisms. This class also includes laboratory exercises designed to complement lectures. As a first semester course, we will also be addressing study skills for Biology and biological thinking.

LEARNING OUTCOMES - My Practical Goals for you

- Take an active role in one's own education by taking personal responsibility for learning, learn to explain topics in students own words, understanding the need to stay on top of material given
- Discuss the correlations between environmental and socioeconomic issues
- Differentiate between a hypothesis and a theory in writing on exams
- Discuss the principles of biology as the study of living things including biological hierarchies, classification of living things, chemical processes of the cell and organisms.
- Improve confidence in scientific knowledge and ability to apply knowledge to related situations.
- Read and discuss articles related to current issues in biology. Form opinions on these issues and express and defend those opinions biologically in discussions and written essays.

LAB GOALS -

- Take personal responsibility for your own understanding of the application of science
- Cooperate with others working as a group, delegate work to others, collaborate with group.
- Use microscopes and other equipment correctly and care for them properly.

ASSESSMENT OF THESE GOALS

WRITING ASSIGNMENT - To help you become more involved in the world of science...

You are assigned two writing assignments to complete this semester. For each testing section, you need to find a current topic in the news that relates to what we are discussing in class. Then, you will write a 2 page of analysis on your article, 5-paragraph form. In the essay, be sure you address the topic, the name of the researcher or research group and where the research was conducted. You should explain what the research is, what benefit it has to the world, how it relates to the course material (a sentence that starts with 'this relates to class' is good) and why the research is important. See attached essay grading rubric for specifics on what is required of you, include the rubric each time you turn it in so we can see if you are improving. **Due the week before your lecture exam.**

STUDY GUIDE ASSIGNMENT - To help you prepare for exams.....

To encourage you to utilize the study guide to its fullest, you can earn points by answering all the questions on the study guide for exam 1 or 2. To earn full credit, you must write out the question then write out a complete answer. This may be a word, a sentence, or a long complex answer so be thorough. Try using a separate piece of paper for each section. We recommend that you complete the first one for credit, then you can increase your score if you need to with the second one. We're hoping that once you see how much it improves your scores you do this for all the tests. As well as increasing your test scores, you can earn up to 30 pts this way, so make sure you put in the time. **Due the day of the lecture exam (except final exam).**

HOMEWORK ASSIGNMENTS - To prepare you for lab activities.....

There will be 2 assignments worth 15 points that you will finish at home before the lab on a similar topic. The first assignment will be preparation for your Chemistry lab. Both are on the website and due in lab.

LECTURE EXAMS - To assess your understanding of the material presented in class....

There will be three lecture exams (each worth 100pts) consisting of a material covered in lecture and reading from text. Tests may include multiple choice, true/false, matching questions and will be taken in the computer lab with a written section. You must be in the lab to take the exam with few exceptions. **If you are late to an exam, you lose 1pt per minute after the start of the exam so be on time and there are no make-up exams are given**, so be sure you're in class! If an emergency occurs, contact us ASAP.

It is a good idea to review your exam when it is returned to you. If you believe your answer is correct and you can explain it biologically speaking and also submit that in writing. **Due 1 week from the date you took the exam.**

LAB WORK - To assess your ability to conduct experiments and answer questions on the material....

You are responsible for completing the work in your lab book during the lab session. To receive full points, you must show us your completed lab (summary questions and all) before you leave each day. This will count as your attendance and your lab points (5 pts per lab x 13 labs). Be sure you read the lab before you come to lab. If you need to miss a lab, you can come to a different section if you tell us ahead of time. **You are welcome to check your answers at the end of lab or during office hours.**

LAB PRACTICALS - To assess your understanding of the material you learned in the lab....

There will be 3 lab practicals given during the semester. These exams are designed to test your knowledge of both the experimental procedures and the hypotheses tested for each experiment. The exams consist of stations with questions for you need to answer within a limited time as well as a few short answer questions. Plan on the exam taking 1 hour, leaving early may result in a penalty. You may not leave the exam before being released by your instructor. **We suggest making vocabulary and activity lists for each lab.**

Be sure you are aware of tests that occur on a day that is not your usual lab day. Make arrangements beforehand, or talk with your lab instructor to pick a time that day if you have a conflict

PARTICIPATION - To be sure you are keeping up with the requirements of the class overall...

Each person is expected to attend class regularly, to be prompt, and to be well prepared. In lecture, you are graded on not just showing up, but participating and being prepared. In lab, this includes cleaning up your lab area before you leave the classroom, putting your microscope away correctly, pushing in your lab stool and being respectful of your fellow students, the instructor and the class. You will be given points dependent upon how well you achieve these goals. Everyone starts with 70% of participation points and those points will go up or down depending on you!

Calendar & Grades Page: We've included a calendar to help you get organized. Write in the due dates for assignments of other classes or dates other exams, work schedules, study times, etc. **This is due in the 4th week of class! The Grades Page due dates will be provided in class, so make sure you write it down.**

The grades you earn in this class are based on your performance:

Syllabus & Microscope Quizzes (10 pts each)	20 pts
Calendar (10 pts) & Grades Page (2 x 5pts)	20 pts
Essays (2 @ 25 points each)	50 pts
Study Guide (for 1 test)	30 pts
Homework Assignments (2 @ 15 pts)	30 pts
Exams (3 @ 100 pts. each)	300 pts
Labwork (5pts a day)	65 pts
Lab Practicals (3 @ 50 pts)	150 pts
<u>Participation/Effort (15 lecture/20 lab)</u>	<u>35 pts</u>
TOTAL:	700 pts.

Letter grades are determined by percent:	A	90 – 100% (630-700 pts)
	B	80 – 89% (560-629 pts)
	C	70 – 79% (490-559 pts)
	D	60 – 69% (420-489 pts)
	F	below 59.9% (<419 pts)

Any late work will be **penalized 2 points for each day is it late**, so 1 week late = 14 point loss

ACADEMIC INTEGRITY

In the long run, dishonesty will not help you in school, or your professional career. Cheating includes using cell phones for any reason during exams, attempting to copy (or copying) any information from others on quizzes, lab practicals, exams or lab notebook information or anything else deemed cheating by instructor. **Do not talk during exams for any reason!** Ask me for help if you need it. The penalty can be a 0 on the assignment, a subtraction of points from your total, an "F" in the course and/or referral to the Dean of the College. See Department Policy if you have questions

Asking Questions/Asking for Extra Help:

If you have a question during lecture, please raise your hand. If there is still confusion after Questions are not only welcome, but also encouraged. Remember! This class is your responsibility so let me know if you need help.

TENTATIVE SCHEDULE AND IMPORTANT DATES

May change if necessary

Week of	Lecture Topic	Chapter	Monday/Wednesday Lab	Tuesday/Thursday Lab
8/22	Intro to Biology	1	Scientific Inquiry <i>Syllabus Quiz</i>	Scientific Inquiry <i>Syllabus Quiz</i>
8/29	Chemistry	2	Chemistry <i>Chemistry HW Due</i>	Chemistry <i>Chemistry HW Due</i>
9/5	Molecules of Cell	3	W - Microscope <i>Microscope Quiz</i>	Microscope <i>Microscope Quiz</i>
9/12	Cell structure & function	4/5	Biological Molecules <i>Calendar Due</i>	Biological Molecules <i>Calendar Due</i>
9/19	Chemical Energy	6	Cells Essay 1 Due	Cells Essay 1 Due
9/26	Lecture Exam 1 Mon or Tues		Lab Practical 1 Wed or Thurs	
10/3	Cellular Reproduction	7/8	Why We Breathe Oxygen	Why We Breathe Oxygen
10/10	Molecular biology	9/10	How Cells Make More	How Cells Make More
10/17	Evolutionary Thought	11/13	What Is DNA	What Is DNA
10/24	Evolutionary Processes	14	How Do Things Changes Essay 2 Due	How Do Things Changes Essay 2 Due
10/31	Lecture Exam 2 Wed or Thurs		Lab Practical 2 Mon or Tuesday Lab Thurs – Microbes & Fungus	
11/7	Unicellular Organisms	15/16	M - Microbes & Fungus	Tues – Microbes & Fungus Thurs - Plant Evolution
11/14	Multicellular Organisms	18	Plant Evolution	T - PE; Th - Animal Survey
11/21	Multicellular Organisms	18	Animal Survey	T – AS; Th - Thanksgiving
11/28	Ecology & Environment	19	Human Evolution	Human Evolution
12/5	Animal Overview	21	Lab Practical 3 Monday or Tuesday** <i>Museum HW Due</i>	
12/12	LECTURE FINAL EXAM: Monday at 10am or Tuesday at 10am			

last day to turn **anything in!

Extra Credit is available through participating in Lake Clean-up throughout the semester. If you work on Saturdays, see me for alternative projects. Some options include visiting local museums and zoos. There is a limit of 1 extra credit assignment per testing section with a total of 30 points maximum. Once the test has been taken, the opportunity is lost so try to plan ahead. You will turn it in through Moodle.

It is your responsibility to drop out from the class by College due date. Do Not Depend on Me to Do That for You! Protect yourself from receiving an "F" for a class that you stopped attending at some point in the semester!

Biology Writing Assignment Grading Chart

Name _____

1) Date _____ 2) Date _____

You are assigned two writing assignments to complete this semester. These essays will be your evaluation of a recent article in the newspaper or on the Internet concerning a topic we are covering in class. I recommend using www.sciencedaily.com and check out that day's news.

- 1) Find a current topic in the news that relates to what we are discussing in class.
- 2) Write about 2 page of **analysis** on your article following the chart below using 5-paragraph form:

Introductory paragraph

- A. Catches the reader's interest
- B. Gives brief background on your topic
- C. Begins or ends with the [thesis statement](#)

Body (paragraphs 2, 3, & 4)

- A. Develops, expands, and/or supports the thesis statement
- B. Includes a [topic sentence](#) for each paragraph
- C. Includes supporting details which reinforce the topic sentence.
- d. **Make sure you explain how it relates to class**
 - i. "This relates to class because..."

Concluding paragraph

- A. Restates the thesis or sums up the argument.
- B. Tells the reader what you think is important to remember
- C. Never introduce new information in the conclusion

** These are due the week before the lecture exam, yet you can turn it in any time before then.

Points	5 – Great!	4 – Good	3 – Okay	2 – Not okay	0
Relevance Article	Specifically about application of a class topic and well tied to class	Inaccurate data or analysis	General topic of class or not tied to class	General topic & not tied to class	Not relevant, no analysis
Current Article	Daily publications article from this month (web-link needed)	Article from monthly magazine	Article from last month	Article from last semester	Article from past year or no date provided
Paragraph Structure	Topic statement first, strong intro & conclusion	Good topic statement, new data mid-way	Missing intro or conclusion paragraph	No obvious paragraph topic	No intro, conclusion or topics
Summary of Information	Presented: Summary of data Named researchers Goals of projects, Relevance of information	Missing one of the previous items	Missing two of the previous items	Missing three of the previous items	Missing all of the previous items
Followed Directions	5 paragraph form, article analysis, good paragraph & sentence structure, no misspelling or grammatical errors	Missing one of the previous items	Missing two of the previous items	Not correct form or analysis but no errors	Poor paragraph or sentence structure, misspellings

Overall Point Total

Total Points _____/25

Total Points _____/25

Comments:

FALL 2016 SEMESTER SCHEDULE

Name _____

Gather all the syllabi from your other classes and any other schedules that you know ahead of time and write in those dates. If you'd rather do this digitally, you download this from your Moodle shell.

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Aug 22 inquiry Syllabus Quiz	Aug 23 inquiry	Aug 24 inquiry	Aug 25 inquiry	Aug 26	Aug 27
Aug 29 chemistry Chemistry HW	Aug 30 chemistry	Aug 31 chemistry	Sep 1 chemistry	Sep 2	Sep 3 9/4: Last day to add & to drop w/o W
Sep 5 HOLIDAY (Labor Day)	Sep 6 microscope Microscope Quiz	Sep 7 microscope	Sep 8 microscope	Sep 9	Sep 10
Sep 12 micro/molecules Calendar DUE	Sep 13 molecules	Sep 14 molecules	Sep 15 molecules	Sep 16	Sep 17
Sep 19 microscope/cells Essay Due	Sep 20 cells Essay Due	Sep 21 cells	Sep 22 cells	Sep 23	Sep 24
Sep 26 Lab meets Wed Lec Exam 1	Sep 27 Lab meets Thurs Lec Exam 2	Sep 28 Practical 1	Sep 29 Practical 1	Sep 30	Oct 1
Oct 3 breathing oxygen	Oct 4 breathing oxygen	Oct 5 breathing oxygen	Oct 6 breathing oxygen	Oct 7	Oct 8
Oct 10 making new cells	Oct 11 making new cells	Oct 12 making new cells	Oct 13 making new cells	Oct 14	Oct 15
Oct 17 DNA	Oct 18 DNA	Oct 19 DNA	Oct 20 DNA	Oct 21 Last day to file for AA/AS	Oct 22
Oct 24 changing DNA Essay Due	Oct 25 changing DNA Essay Due	Oct 26 changing DNA	Oct 27 changing DNA	Oct 28	Oct 29
Oct 31 Practical 1	Nov 1 Practical 2	Nov 2 Lab meets Mon Lec Exam 2	Nov 3 microbes & fungus Lec Exam 2	Nov 4	Nov 5
Nov 7 microbes & fungus	Nov 8 microbes & fungus	Nov 9 microbes & fungus	Nov 10 plants evolution	Nov 11 HOLIDAY (Vet's Day)	Nov 12
Nov 14 plants evolution	Nov 15 plants evolution	Nov 16 plants evolution	Nov 17 animal survey	Nov 18 Attend. Verif. Day Last day to drop w/W	Nov 19
Nov 21 animal survey Museum HW	Nov 22 animal survey	Nov 23 animal survey	Nov 24 HOLIDAY Thanksgiving	Nov 25 HOLIDAY Thanksgiving	Nov 26 NO SAT. CLASSES
Nov 28 human evolution	Nov 29 human evolution	Nov 30 human evolution	Dec 1 human evolution	Dec 2	Dec 3
Dec 5 Practical 3	Dec 6 Practical 3	Dec 7 lab meets Mon	Dec 8 Lab meets Tues	Dec 9	Dec 10 Sat. class Finals
Dec 12 10 - Final	Dec 13	Dec 14	Dec 15 10 - Final	Dec 16	Dec 17

GRADES RECORD - This needs to be updated turned in to your lab instructor – see calendar for due dates. If you are not earning at least a C when you turn this in the first time, please include an Action Plan for how you are going to pass the class.

Lecture Exams	Lab Practical	Quizzes (10pts)
1)	1)	1)
2)	2)	2)
3)	3)	

Lab work (5 pts each)	Study Guide (30 pts)	Essay (25 pts each)
1) 11)	1)	1)
2) 12)		2)
3) 13)		

4)	Calendar (10pts)	
5)	1)	Homework (15 points each)
6)		1)
7)	Grades Page (5 each)	2)
8)	1)	
9)	2)	
10)		
Lab work total	1)	
	2)	

Extra Credit pts & activity	Overall Total	% & letter grade	What grade do you want to earn?	How many points do you need for that grade?	Are there enough points left in class? (#)
	1)				
	2)				

- To find your %, divided the points you've earned by the total possible