Biology 10 – Introduction to Biology

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**Office Hours:** T/Th 10-10:30Th 12-1pm B267 (1hr TBA)  **email:** abohorquez@peralta.edu

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**Required text:** Essentials of Biology w/Physiology, Campbell

Laney College Lab Manual

Scantron forms (3 total; 50 on each side)

Recommended 🡪 My lecture notes are available in the bookstore

**Description:**

This class is an introduction to the science of biology for non-majors. We cover the f**undamentals 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 i**ncludes laboratory exercises designed to complement lectures.** As a first semester course, I 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.

##### ASSESMENT OF THESE GOALS

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

You are assigned three 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 to 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 I can see if you are improving. **Due the lecture day before each 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. I recommend that you complete the first one for credit, then you can increase your score if you need to with the second one. I’m 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, so make sure you get a copy in class.

**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, short answer and essay questions to help you learn to explain the reasons for your answers. **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 me ASAP.

To learn from your mistakes and understand more about your test-taking skills, you should go over your test once it’s returned to you. You may re-earn half of the points you missed on your lowest scoring test by completing test corrections for the exam. These corrections need to be in writing with each question, the correct answer explained biologically, your answer and why you chose the answer you did. 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 you lab book during the lab session. To receive full points, you must show me 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 14 labs). Be sure you read the lab before you come to lab. **You are welcome to check your answers at the end of lab or during my office hours.**

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

There will be 3 lab practicals give 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. **I 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 before hand, or talk with me 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, 20 points for lecture and 25 points for lab. This also 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 dependant on how well you achieve these goals. Everyone starts with 70% of participation points and those points will go up or down depending on you!

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

Essays (3 @ 25 points each) 75 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) 70 pts

Lab Practicals (3 @ 50 pts) 150 pts

Participation/Effort (15 lecture/30 lab) 45 pts

**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 attempting to copy (or copying) any information from others quizzes, lab practicals, exams or lab notebook information. ***Do not talk during exams for any reason!*** Ask me for help in 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 repeating the information, please see me individually at another time, or contact me through email or voicemail. If you having a problem with the course in any way, please feel free to meet with me as soon as possible. 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** | **Tuesday Lab** | **Thursday Lab** |
| **1/21** | Intro to Biology | 1 | Scientific Inquiry | Scientific Inquiry |
| **1/28** | Chemistry | 2 | Chemistry Capers | Chemistry Capers |
| **2/4** | Molecules of Cell | 3 | Microscope | Microscope |
| **2/11** | Cell structure & function | 4/5 | Biological Molecules | Biological Molecules |
| **2/18** | Chemical Energy | 6 | Cells | Cells |
| **2/25** | **Essay 1 due Tuesday**  **Lecture Exam Thursday** | | **Lab Practical 1 Tuesday** | |
| **¾** | Cellular Reproduction | 7/8 | Why We Breathe Oxygen | Why We Breathe Oxygen |
| **3/11** | Molecular biology | 9/10 | How Cells Make More | How Cells Make More |
| **3/18** | Evolutionary Thought | 11/13 | What Is DNA | What Is DNA |
| **3/25** | ***Spring Break – No Classes*** | | | |
| **4/1** | Evolutionary Processes  **Essay 2 due Thursday** | 14 | How Do Things Changes | How Do Things Changes |
| **4/8** | **Lecture Exam 2 Tuesday**  Overview of Life | | **Lab Practical 2 Thursday** | |
| **4/15** | Unicellular Organisms | 15/16 | Microbes & Fungus | Microbes & Fungus |
| **4/22** | Multicellular Organisms | 18 | Plant Evolution | Plant Evolution |
| **4/29** | Multicellular Organisms |  | Animal Survey | Animal Survey |
| **5/6** | Ecology & Environment | 19 | Human Evolution | Human Evolution |
| **5/13** | Animal Overview  **Essay 3 due Thursday\*\*** | 21 | Lab Practical 3 Tuesday | |
| **5/20** | **5/23 Thursday -10am LECTURE FINAL EXAM** | | | |

\*\*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.

**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!

**Calendar:** I’ve included a calendar to help you get organized. I recommend you write in the due dates for assignments of other classes or dates other exams, work schedules, study times, etc.

**SPRING 2013 SEMESTER SCHEDULE**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
| Jan 21 | Jan 22 | Jan 23 | Jan 24 | Jan 25 | Jan 26 |
|  | inquiry |  | inquiry |  |  |
| HOLIDAY (MLK) |  |  |  |  | Sat. classes begin |
| Jan 28 | Jan 29 | Jan 30 | Jan 31 | Feb 1 | Feb 2 |
|  | chemistry |  | chemistry |  | **2/3** is last day to add |
|  |  |  |  |  | and to drop w/o W |
| Feb 4 | Feb 5 | Feb 6 | Feb 7 | Feb 8 | Feb 9 |
|  | microscope |  | microscope |  |  |
| Census Day |  |  |  |  |  |
| Feb 11 | Feb 12 | Feb 13 | Feb 14 | Feb 15 | Feb 16 |
|  | molecules |  | molecules |  |  |
|  |  |  |  | HOLIDAY (Lincoln) | NO SAT/SUN CLASSES |
| Feb 18 | Feb 19 | Feb 20 | Feb 21 | Feb 22 | Feb 23 |
| HOLIDAY | cells |  | cells |  |  |
| (Washington) |  |  |  |  |  |
| Feb 25 | Feb 26 | Feb 27 | Feb 28 | Mar 1 | Mar 2 |
|  | **Practical 1** |  | Lab meets Tues |  |  |
|  | **Essay Due** |  | **Lec Exam 1** |  |  |
| Mar 4 | Mar 5 | Mar 6 | Mar 7 | Mar 8 | Mar 9 |
|  | breathing oxygen |  | breathing oxygen |  |  |
|  |  |  |  |  |  |
| Mar 11 | Mar 12 | Mar 13 | Mar 14 | Mar 15 | Mar 16 |
|  | making new cells |  | making new cells |  |  |
|  |  |  |  |  |  |
| Mar 18 | Mar 19 | Mar 20 | Mar 21 | Mar 22 | Mar 23 |
|  | DNA |  | DNA | Last day to file for |  |
|  |  |  |  | AA/AS |  |
| Mar 25 | Mar 26 | Mar 27 | Mar 28 | Mar 29 | Mar 30 |
|  |  |  |  | HOLIDAY (C. Chavez) |  |
| SPRING RECESS | SPRING RECESS | SPRING RECESS | SPRING RECESS | SPRING RECESS | SPRING RECESS |
| Apr 1 | Apr 2 | Apr 3 | Apr 4 | Apr 5 | Apr 6 |
|  | changing DNA |  | changing DNA |  |  |
|  |  |  | **Essay Due** |  |  |
| Apr 8 | Apr 9 | Apr 10 | Apr 11 | Apr 12 | Apr 13 |
|  | Lab meets Thurs |  | **Practical 2** |  |  |
|  | **Lec Exam 2** |  |  |  |  |
| Apr 15 | Apr 16 | Apr 17 | Apr 18 | Apr 19 | Apr 20 |
|  | microbes & fungus |  | microbes & fungus |  |  |
|  |  |  |  |  |  |
| Apr 22 | Apr 23 | Apr 24 | Apr 25 | Apr 26 | Apr 27 |
|  | plant evolution |  | plants/animals |  | Attend. Verif. Day |
|  |  |  |  |  | Last day to drop w/W |
| Apr 29 | Apr 30 | May 1 | May 2 | May 3 | May 4 |
|  | animal survey |  | animal survey |  |  |
|  |  |  |  |  |  |
| May 6 | May 7 | May 8 | May 9 | May 10 | May 11 |
|  | human evolution |  | human evolution |  |  |
|  |  |  |  |  | Sat. classes end |
| May 13 | May 14 | May 15 | May 16 | May 17 | May 18 |
|  | **Practical 3** |  |  |  |  |
|  |  |  | **Essay Due** | HOLIDAY (Malcolm X) | Finals (Sat. classes) |
| May 20 | May 21 | May 22 | May 23 | May 24 | May 25 |
|  |  |  | **10 am Lec Exam 3** |  |  |
| Finals | Finals | Finals | Finals | Finals |  |

**Biology Writing Assignment Grading Chart**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1) Date \_\_\_\_\_\_\_\_\_\_2) Date\_\_\_\_\_\_\_\_\_\_3) Date \_\_\_\_\_\_\_\_\_\_

You are assigned three 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.

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](http://www.sheboyganfalls.k12.wi.us/staff/dehogue/FSSH/thesis.htm)

*Body (paragraphs 2, 3, & 4)*

A. Develops, expands, and/or supports the thesis statement

B. Includes a [topic sentence](http://www.sheboyganfalls.k12.wi.us/staff/dehogue/FSSH/parag.htm) for each paragraph

C. Includes supporting details which reinforce the topic sentence.

d. Make sure you explain how it relates to class

*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 lecture day 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 | Article from monthly magazine | Article from last month | Article from last semester | Article from past year |
| 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 | Not 5 paragraph form, but good analysis | Followed directions, but hard to follow essay | Not correct form or analysis but no errors | Poor paragraph or sentence structure, misspellings |

Overall Point Total

Total Points \_\_\_\_\_\_/25 Total Points \_\_\_\_\_\_/25 Total Points \_\_\_\_\_\_/25

Comments:

\*\* Turn in this exact sheet with each essay

GRADES RECORD - This needs to be updated each time you turn in your essay

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Lecture Exams** |  | **Lab Practical** | |  | **Participation (20/30)** |
| **1)** |  | **1)** | |  | Lecture \_\_\_\_\_\_ |
| **2)** |  | **2)** | |  | Lab \_\_\_\_\_\_ |
| **3)** |  | **3)** | |  |  |
|  |  |  | |  |  |
| **Lab work (5 pts each)** | | **Study Guide (30 pts)** | | **Essay (25 pts each)** | |
| 1) | 11) | 1) | | 1) |  |
| 2) | 12) |  | | 2) |  |
| 3) | 13) |  | | 3) |  |
| 4) | 14) |  | |  |  |
| 5) | 15) |  | | **Homework (10 points each)** | |
| 6) |  |  | | 1) |  |
| 7) |  |  | | 2) |  |
| 8) |  |  | | 3) |  |
| 9) |  |  | |  |  |
| 10) |  |  | |
| **Lab work total** | **1)** |  | |
|  | **2)** |  | |
|  | **3)** |  | |
|  |  |
|  | Extra Credit | **Overall Total** | % /r grade | |  |
|  |  | **1)** |  | |  |
|  |  | **2)** |  | |  |
|  |  | **3)** |  | |  |

* To find your %, divided the points you’ve earned by the total possible