# GENERAL BIOLOGY (BIOL 1B)

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### ****Course Description****

BIOL 1B is a continuation of BIOL 1A. This course covers the origin of life, evolution, classification, plant structure and function, ecology. BIOL1A is a prerequisite. It will serve as a base for learning more about the specific areas of biology in other courses.

**Topics**: (both semesters are listed here)

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| **BIOL 1A** | **BIOL 1B** |
| Cell Biology and biochemistry (Ch 1-12) | Biodiversity (Ch 26-34) |
| DNA and Genetics (Ch 13-21); | Plants form & function (Ch 35-39) |
| Animals, form and function (Ch 40-51) | Evolution (Ch 22-25) & Ecology (Ch 52-56) |

**Materials and Technology Required**:

* Texts: Biology by Campbell and Van de Graaff’s Photographic Atlas
* Computer w/access to Canvas: must have ability to upload files, take exams, record video
* Reliable internet (if you have difficulties with either of these, let me know)

**Student Learning Outcomes -** Big picture topics that I would hope you gather through the semester.

1. Explain the complexity of ecosystems, the component parts and humans place in the ecosystem; Critique current methods of dealing with ecosystems and ecological issues through discussion and seminar papers.
2. Demonstrate an awareness of continued threats to our global ecosystems and appraise individual efforts in environmental issues.
3. Explain how all organisms are connected by cell structure, energy sources and evolutionary lineage in class discussion and on exams. Correlate information on cell structure and animal systems learned in BIOL 1A with evolutionary lineage discussed in BIOL 1B.
4. Synthesize the information in class on ecology, evolution and organismal diversity in a research paper and oral presentation on a given topic.
5. Write clear, well organized lab reports. Draw accurate representations of microscope slide images to identify organisms of the living world in the laboratory. Analyze the results of laboratory experiments and evaluate sources of experimental error.

**Format and General Information**

Biology is a complex and interconnected subject. Sometimes questions in lecture will lead us to explore topics that do not seem directly related to the subject matter at hand, but are important. Many students find it helpful to read the chapters before the lectures. You should print out the lab with enough time to read it over before class. After the initial explanation of the lab activities, you will work individually or in groups to complete the assignment. You are expected to budget your time to complete the assignment and you can decide when to take your breaks. If you finish your lab assignment early, you are encouraged to use the time for reviewing, asking questions from the lecture topics, or completing written work. A lot of specifics about assignments can be found in Canvas.

Although most of this course material is based on European science, which was mainly conducted by white men, we value and honor the information gathered by people outside of what might be reflected in your textbook. We will be highlighting Biologists and other researchers with a variety of backgrounds and perspectives. We also encourage you to bring your own thoughts to the discussions and class chats. Science is not without bias, in fact much of science has been used to justified biases of dominant culture. We will be discussing scientific bias from the first day of class. If you come across information that you think would be valuable to the class, we encourage you to share it. To limit our own biases, we ask that you submit your assignments without your names as we grade things anonymously.

### ****Assessment (1000 points)****

**Quizzes (20 points)**

There are two quizzes that you must complete online. One covers the material in this handout and the calendar. The second is a review of your microscope knowledge. To use the microscopes in lab, you have to score 100% on the microscope quiz.

**Lab Reports (240 points)**

Lab reports will be turned in throughout the semester involving sketches, answers to questions, and observations and data analysis of results obtained in class. Late lab reports will be accepted (with a penalty) but only until the Exam covering that material is given. If we use the microscope, you are expected to provide a sketch with labels of what you see in the lab report. **Be sure to label your slides!** The expected information to be included in the lab report will be explained at the beginning of class.

Informal Reports: You are required to turn in 10 informal reports throughout the semester. They are graded at 10, 8 or 5 points. These will include sketches and/or questions from the lab handout. Dates on Calendar correspond to the due date. You must turn in at least 2 per test section.

Formal Reports: You are required to turn in 4 formal reports throughout the semester – one per test section. These lab reports should be typed and submitted digitally via Canvas. The first formal lab has a pre-lab assignment associated with it. Formal lab reports are noted in the title of the lab in Canvas and involve simulations. They are due 1 week after the lab was completed. Be sure you turn it in on time.

* Peer Review Pre-lab (5pts) – As a part of the Formal Lab Write Up, you will be turning in a pre-lab. I will pair you up to review each other’s pre-labs before you complete lab.

**Article and Video Analysis (60 pts)**

There are six assignments that involve you reading an article or watching a video and then answering questions about the information. Many of these address issues of bias in science, environmental racism or science history. These assignments are noted in Canvas as “AVA” and the topic.

**Exams (400 points)**

To assess your understanding of lecture material, reading and lab activities, there will be 4 exams worth 100 points each. Exams will cover material for lecture and lab and are closed book. You must be able to recognize and define the terms learned in class and answer T/F, multiple choice, fill in or short essay questions. Exams 2, 3 and 4 will have lab practicals as well as a written part to the exam.

There will be practice quizzes that are graded that will help you prepare for the practical exams. You see them show up with Module Two.

**Field Trip (40 points)**

We will be going on multiple field trips during the semester. One virtual and a few outside. Two will occur during lab time, others will occur on other days. You are required to fill in one field trip report. You can turn in one other report for extra credit. There will be other options if you are not comfortable going outside with people for the ones outside.

**Research Paper and Oral Presentation (100 points)**

A cumulative research paper on an assigned topic will be due. You will be asked to submit your topic early in the semester. At the end of the semester you will give an oral presentation on your research project. This project combines information learned throughout the semester.

**Group Work and Discussions (100 pts)**

As part of our online learning community participation, you have Discussions to take part on in Canvas. Some are with the whole class and some are within your group. You will be taking a survey so I can get an idea of your schedule. From this, I will be setting up groups after the first week of classes. You can also set up Conferences with each other to create study groups. You'll see directions for each discussion with a grading rubric.

Group Work: You will be asked to meet with your group to prepare presentations to the rest of the class for certain labs. This is help prepare you for the presentations at the end.

Discussions: A substantive post in the forum (at least 100 words) reflecting on the lab report or reaching out for discussion on a section of the report- one report per exam section (5 points each) and 2 replies to other classmates posts per exam section (5 points each)

**Calendar and Grades Pages**

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. You can download a digital version via Canvas if you’d like to edit that one. Once this is filled out, you will submit it to us. Turning in the Calendar is your acknowledgement that you are aware of dates assignments are due and exam dates. We also ask that you fill out the grades page two times during the semester with totals and then meet with us to review your scores. Do not use Canvas for your overall grades, use this form. Be sure to read the directions for both.

**Participation/Class Expectations (20 pts)**

Each person is expected to attend class regularly, and to participate in the office hours, discussions and virtual interactions with your fellow students and professors. Setting up a schedule when you regularly work on the class is important to your success in the class. You will be given points dependent upon how well you achieve these goals. If you are meeting with your group, I ask that you record the session via Conferences in Canvas. Students start with 70% of these points and if you complete the work, take exams, participate at a minimal level, your points will remain at 70%.

1. You are responsible for knowing all the information in this course information and syllabus. Please read over the calendar and take the syllabus quiz that is online to show me that you have read over this information. Questions that demonstrate you did not read the syllabus will lead to a decrease in these points. Questions clarifying that you did read it will not. (But please don’t email me a question just to try to get more points)
2. You are responsible for dropping yourself from the course.

**Extra Credit**

There will be opportunities for extra credit. See Canvas for more information.

**Grading Scale**

Your grade is based on points.  You have a “Keep Track of your Progress” sheet to be able to calculate your grade at any time throughout the semester.  You are required to turn in the grades page with a running total two times – see calendar for dates. The class is 800 points total. See Grades Page for breakdown

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| --- | --- |
| **A** | 90 – 100 % |
| **B** | 80 – 89 % |
| **C** | 70 – 79 % |
| **D** | 60 –69 % |
| **F** | below 59 % |

#### ****Important Notes****

* If you feel lost or confused in this course, **please let me know via Canvas email.** **I will make every attempt to reply with 24-48 hours** with the exception of the weekends. Please sign up for office hours in person chatting is better for you.
* If you are a student with a disability, please let me know about your needed accommodations immediately. If you are a new student and need evaluation or verification of your needed accommodations, please contact Disability Services and Programs for Students (DSPS).
* [Student resources and support info.](/courses/36384/pages/student-resources-and-support)
* Link to full version of class syllabus - you are responsible for knowing, and accountable to, all information in the class syllabus

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Keeping Track of Progress BIOLOGY 1B Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Fall 2020** | **Possible Pts** | **Points You Earned** |  | **Informal labs (100)** | **score** | **title of lab** |
| *Calendar* | 10 |  |  | #1 |   |   |
| *Exams* |   |  |  | #2 |   |   |
|  lec/lp 4x100 | 400 |   |  | #3  |   |   |
|  syllabus quiz | 10 |   |  | # 4 |   |   |
|  microscope quiz | 10 |   |  | # 5 |   |   |
| *Discussion pts* | 50 |   |  | # 6 |   |   |
| *Lab reports* |   |   |  | # 7 |   |   |
|  informal 10 x 10 | 100 |   |  | # 8 |   |   |
|  conference videos | 20 |   |  | # 9 |   |   |
|  formal 4 x 25 | 100 |   |  | # 10 |   |   |
|  prelab dis/peer review | 40 |   |  |  |  |  |
| *Art/Vid Analysis* | *60* |  |  | **Formal Labs (140) – 4 x (25 pts + 10 pts Pre-lab/Dis)** |
| *Field Trip* | 40 |   |  | # 1 |   |   |
| *Practice Practicals* | 30 |  |  | # 2 |   |   |
| *Grades Page* | 10 |   |  | # 3 |   |   |
| *Research Paper* |   |  |  | # 4 |   |   |
|  IPCC presentation | 5 |   |  |  |  |  |
|  library assign | 5 |   |  |  |  |  |
|  Bibliography | 5 |   |  |  |  |  |
|  annotated outline | 5 |   |  |  |  |  |
|  report | 50 |   |  |  |  |  |
|  presentation | 30 |   |  |  |  |  |
| *Participation* | 20 |   |  |  |  |  |
| **total** | **1000** | **0** |  |  |  |  |

To determine your grade: add up your points you received and divide by the points possible in the class so far. Multiply that number by 100 for a percentage.

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| **Extra Credit**  | **Overall Total pts earned by you** | **%****& letter grade** | **What grade do you want to earn? (pts)** | **How many points do you need for that grade?** | **Are there enough points left in class?****(give # of pts left)** |
| ***example*** | ***points earned*** | ***your pts******possible so far*** |  ***A (900)*** | ***900 – your pts =*** |  ***1000 –possible so far =*** |
|  | **1)** |  |  |  |  |
|  | **2)** |  |  |  |  |

* You are to turn this page in (completed with a total) twice, however you can turn it in at any time to check your grade