Biology 1615: College Biology I Laboratory

**Instructor contact info can be found on Canvas**

Required Text**:** NO TEXT REQUIRED – You will be supplied lab manual readings and worksheets via Canvas

Required Materials: Computer or electronic device capable of connecting to Canvas and completing Virtual labs. Proctorio will be used for quizzes, which requires a webcam and microphone as well as the use of a Google Chrome Extension. An optional quiz will be provided on the first day of class to test your system. If your system is not suited to meet these requirements, you should contact your instructor for alternative options or consider withdrawing from the course.

THIS COURSE WILL FOLLOW AN A/B SCHEDULE DUE TO CONCERNS SURROUNDING COVID-19. This means that you will be assigned to either group A or B, and will attend class on alternating weeks based on which group you are in. Some weeks, you will attend a face-to-face lab as usual, and other weeks, you will complete a lab at home. – This is NOT an optimal method of instruction for a lab. You will lose valuable hands-on experience that would otherwise be present in a face-to-face lab. You should also consider that various professional and graduate programs may not accept online courses. If this is a concern, you should reach out to your Academic Advisor for guidance.

Approximately 50% of this course will be held on Canvas. You will need access to a computer that have internet capabilities. Two at-home lab assignments (Macromolecules and Photosynthesis) will also require you to submit a picture of your experiment and/or results as evidence of completion - follow in-assignment instructions for submission requirements. If you do not have access to the technology necessary to complete the course, you should consider dropping and taking it at a time that it can be offered completely face-to-face. Exceptions to assignments will not be made for technical difficulties. Extra time and flexibility are worked into each lab, so there will be no late-work accepted except in extreme circumstances where documentation is provided – Acceptance of late-work is at the sole discretion of the lab manager. See the “Rules” portion of the syllabus for more information on late work.

# Course Description

Laboratory course to accompany BIOL 1610. Topics covered include scientific method, biomolecules, cell structure and function, cellular reproduction, Mendelian and molecular genetics, DNA technology, and evolution.

# Course Objectives:

Upon successful completion of this course, you should be able to:

1. Demonstrate safe and effective use of basic laboratory equipment and reagents.
2. Conduct inquiry – based labs involving the study of biological processes including diffusion and osmosis, photosynthesis, and cellular respiration.
3. Explain the mechanisms governing the functions and/or processes regulating biological macromolecules, cell division, genetics, evolution, and biotechnology.
4. Effectively communicate scientific findings and data interpretations with peers verbally and through written laboratory reports.
5. Incorporate primary, peer – reviewed, scientific literature into written laboratory reports.

Student Responsibility: It is up to you to see that the requirements for this course are completed. This syllabus is your guide to those requirements. Make certain that you understand what is expected of you. It is up to you to arrange for time to complete the assignments. This course is designed for biology majors. The text should be read **BEFORE** class.

# Rules:

# You must complete every lab by the due date

# Due to the nature of lab set-ups, there are no make – ups of any lab or any portion of a lab. Acceptance of late work will only be allowed at the sole discretion of the lab manager and only extenuating medical, legal, or military related excuses will be considered. Given the flexibility of online modules and the extended time to complete work (compared to fully face-to-face labs), only extreme cases will be considered. Technical and computer related issues are NOT acceptable excuses for acceptance of late work.

# You MUST have access to equipment suitable to completing an online virtual lab. If you are unable to obtain and complete materials, you will not be able to complete the course. If your system cannot support Proctorio, you should reach out to your instructor for alternative options

# Keep a calendar and schedule! Being confused about which week you should attend in person and which week you are at home is not a valid excuse for missing class or an assignment.

# You may not switch Groups under any circumstance. If you are in Group A, you may not attend Group B face-to-face sessions, and if you are in Group B, you may not attend Group A face-to-face sessions. You can only attend your own scheduled classes. There are absolutely no exceptions to this policy.

You should plan to attend lab in-person on your assigned weeks. If you are unable to do so, due to illness or other extenuating circumstances, you MUST notify your instructor of your absence within 24 hours of the missed class in order to receive accommodations in the form of an alternate lab. Note that only extenuating circumstances will be accommodated. No due dates will be extended for completing an “alternate” lab. If you are seeking access to the “alternate” lab and are unable to contact your instructor within 24 hours, you will need to provide documentation (doctor’s note, lawyer’s note, or military orders) showing an inability to access email during this time.

# Grading:

|  |  |  |
| --- | --- | --- |
|  | **Points each** | **Total Points** |
| **12 Lab Assignments (lowest dropped)** | **30** | **330** |
| **1 lab report (CANNOT be dropped)** | **70** | **70** |
| **12 Canvas Quizzes (lowest dropped)** | **20** | **220** |
| **Final Presentation (CANNOT be dropped)** | **70** | **70** |
| **Total** |  | **690** |

GRADING SCALE(minimum % required for each grade)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A** | **A-** | **B+** | **B** | **B-** | **C+** | **C** | **C-** | **D+** | **D** | **D-** |
| 94 | 90 | 87 | 83 | 80 | 77 | 73 | 70 | 67 | 63 | 60 |

## Pre – Lab Assignments

There will be a total of 11 pre – lab assignments and the lowest assignment will be dropped.

## Lab Worksheets

Lab worksheets will be posted on Canvas and should be filled out throughout the lab. Make sure that you **legibly** print or type your name, your lab section number, and the names of your lab partners (if applicable) in each lab report. The lab manual is meant to guide you through the lab exercises. You should be able to finish all lab exercises within a normal class time (2 hours and 50 minutes), and worksheets will be due within 24 hours of the conclusion of your scheduled class. Points will be deducted for missing any of the required sections, poor English, hard to decipher hand – writing and for incorrect answers. Lab worksheets are worth a total of 20 points, and the lowest is dropped.

Some labs will require you to enter information that will be used in the following week. More instructions and deadlines will be announced as needed.

## Partners and Groupwork

Science is collaborative. As such, you will be working with a partner for all in-class assignments. You will also work with a partner or group for all at-home assignments. Only one person from each pair or group should submit the collaborative assignment, however all names must be on the assignment in order to receive credit. Although you will be collaborating with a partner/group on at-home assignments, you will be required to upload a picture of the Macromolecules and Photosynthesis labs to show that you also did the experiment. In other words, EVERY person should perform every at-home experiment, then meet with their partner/group to complete the worksheet. There are numerous tools available for remote collaboration and you are encouraged to explore what options work best for your group. It may be valuable to set 1-2 hours PER WEEK that you and your partner/group will meet virtually to discuss collaborative work. You should compare schedules now to find a time that works regularly. It’s important to note that all members working on the same assignment will receive the same grade, so make sure you are happy with the submission before it is sent in.

If you want a new partner or if your partner leaves the class, you should speak to your instructor about options. Your instructor may allow you to join another person/group or may assign you to one.

## Lab Report

You will be required to complete a full written lab report for one of the labs that you complete in this class. It needs to be uploaded via Canvas and Unicheck will be used on the report before a grade will be assigned. Unicheck is a plagiarism detector, and no points will be awarded for plagiarized work and all Student Misconduct will be reported to the Dean of Students. The lab report is worth 70 pts and cannot be dropped. This is approximately 10% of your overall grade. For your lab report, you will use information from either your Aerobic or Anaerobic Respiration Lab.

## Quizzes and Pre-labs

Reading material will be provided in advance for each lab. You should read the material and lab worksheet before completing the pre-lab quiz. The assignments are due BEFORE attending lab face-to-face or doing the at-home lab. It is essential that you read the lab prior to class material and answer the pre – lab questions as these will help you in understanding the lab material better. You will normally have 15 minutes to complete each quiz, however some may take longer and more time will be provided. Quiz questions will generally be taken from the lab manual and lab worksheet information provided in advance. Each quiz is worth 20 points, and the lowest is dropped.

## Presentation

You will be required to create a presentation of the project you designed Respiration lab. You are responsible for ensuring that your presentation works on the lab computer! This is worth 70 points, which is approximately 10% of your overall grade.

Directions for completion of this assignment will be available on Canvas. Presentations may not be dropped or rescheduled and **must be completed on the Respiration Lab (7).**

## Assignment submissions

All assignments must be submitted through Canvas unless otherwise directed by your instructor before the due date. It is important to note that Canvas will accept submissions in many formats, but will not display some. For that reason, you are not to submit assignments in formats that aren’t previously approved by your instructor. You are encouraged to use Word or PDF for all submissions. If an instructor is unable to access or view an assignment due to formatting or permissions, it will be considered late and will not be accepted. For instance, if you complete an assignment using Google Docs, submit that assignment, but don’t provide access to it BEFORE the due date, it will be considered late and won’t be accepted. See the “Rules” portion of the syllabus for information regarding late work.

## Open Lab Hours

## During the semester, there will be Open lab times where you can get assistance on worksheets, previous quiz questions, lab reports, presentations, etc. Note that this is NOT a time to make-up or to complete a lab experiment. Your instructor will provide a Teams link and scheduled times via a Canvas announcement.

At Home Lab Materials

The Lab Managers will be assembling items that you’ll need in order to complete at-home labs on your assigned weeks. The items in the package are carefully measured and you will need to be precise during your activities to ensure that you have enough materials. You will be responsible for coming to UVU campus to pick up your materials. These will be distributed at the end of the preceding lab (face-to-face), but you’ll need to make alternative arrangements if you miss that class. Keep in mind that all items provided by the Biology Department are intended for use with material relating to Biol 1015 and MUST be used only as directed.

# Academic Dishonesty

Students should consult the UVU Student Code of Conduct for a complete explanation on Academic Dishonesty: <https://www.uvu.edu/studentconduct/students/integrity.html>. Students who commit any form of academic dishonesty on an assignment may be assigned a grade as severe as a “0” or “E” for this assignment by the instructor, or will be informed by the instructor that the Dean of Students will be contacted to coordinate a more severe penalty for the offense (e.g. an “E” for the course). In the latter case, a centralized record of the student’s academic dishonesty incident will be maintained within the Dean of Students Office so that, if future incidents are reported, patterns of behavior can be identified and sanctioned more severely. Sanctions that may be imposed include disenrollment from the course, suspension from campus, expulsion from the institute, and other administrative actions.

The following are some forms of cheating**:**

* Notes written on body parts, clothing, cheat sheets, etc. at the time of a quiz.
* Any form of communication with your neighbor during a quiz.
* Talking to anyone but the instructor or proctor during a quiz.
* Communicating via cell phones with other people during a quiz.
* Notes or books open during in – class quizzes.
* Disclosing or soliciting examination questions to those who may have been absent from a quiz.
* Turning in a laboratory worksheet/report that you turned in previously (prior semester, etc.)
* Turning in a laboratory worksheet/report with portions that have been plagiarized, another student has written or that you were not present for (i.e. not present for the activities in the lab that contributed to the assignment).

# Attention students with disabilities

Students who need accommodations because of a disability may contact the UVU Office of Accessibility Services (OAS), located on the Orem Campus in LC 312. To schedule an appointment or to speak with a counselor, call the OAS office at 801-863-8747. Deaf/Hard of Hearing individuals, email nicole.hemmingsen@uvu.edu or text 385-208-2677.

Biology 1615 Lab Schedule: Spring 2021

*Please take a close look at the schedule and plan accordingly!*

|  |  |
| --- | --- |
| **Weeks Labs take place (Group A and B):** | **Lab Name and Number** |
| 1 (A)2 (B) | Lab #1 Laboratory Safety and Scientific Method ***FACE-TO-FACE*** |
| 2 (A)1 (B) | Lab #2 Scientific Literature ***AT-HOME*** |
| 3 (A)4 (B) | Lab #3 Metric System and Solutions ***FACE-TO-FACE*** |
| 4 (A)3 (B) | Lab #4 Biological Macromolecules ***AT-HOME*** |
| 5 (A)6 (B) | Lab #5 Microscopes, Osmosis and Cell Structure ***FACE-TO-FACE*** |
| 6 (A)5 (B) | Lab #6 – Documentary review ***AT-HOME***  |
| 7 (A)9 (B) | Lab #7 Cellular Respiration ***FACE-TO-FACE*** |
| 9 (A)7 (B) | Lab #8 Photosynthesis ***AT-HOME*** |
| 10 (A)11 (B) | Lab #9 Cell Division ***FACE-TO-FACE*** |
| 11 (A)10 (B) | Lab #10 Mendelian Genetics ***AT-HOME*** |
| 12 (A)13 (B) | Lab #11 DNA Technology ***FACE-TO-FACE*** |
| 13 (A)12 (B) | Lab #12 Population Genetics ***AT-HOME*** |
| 14 (A and B) | **FINAL PRESENTATIONS *FACE-TO-FACE*** |

**– DO NOT PROCRASTINATE – Your instructor will have limited ability to assist you with last minute questions/problems – get things done early so that you have time to get help if you need it**

**\* The Spring 2021 semester is heavily affected by the influence of COVID-19. Many decisions regarding course design and implementation are being made on a day-to-day and case-by case basis. For these reasons, all items on this syllabus are subject to change at any point.**

**Lab Manager: Nick Wilbur**

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**SB 158**