GRAYSON COLLEGE

Course Syllabus

Please Note: Due to extenuating circumstances, including public health issues, course and testing delivery methods, instructional schedules, housing contracts, campus procedures and/or operating hours may be altered, interrupted and/or ceased for a limited or extended period of time. Such changes will be posted on the College website.

Course Information

BIOL 1106
Biology I Laboratory

Professor Contact Information

Instructor/Professor: Michael B. Keck, PhD

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Although students must register for a separate course number for lab and lecture, the two "courses" are in fact the same course and are separated for scheduling and reporting reasons. Your final grade is derived from the combination of your lecture and laboratory grades (70/30 respectively). Together the lecture and laboratory satisfy the state core objectives (CS1, CT2, CT3, EQS2, and TW1) and therefore must be taken concurrently.

Concurrent enrollment in a lecture section (BIOL 1306) is required. Prerequisite: College readiness in reading required.

Course Description

BIOL 1106. Biology I Laboratory. This laboratory-based course accompanies Biology 1306, Biology for Science Majors I. Laboratory activities will reinforce the fundamental principles of living organisms, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Study and examination of the concepts of cytology, reproduction, genetics, and scientific reasoning are included. Concurrent enrollment in lecture section (BIOL 1306) is required. Prerequisite: College readiness in reading required. (R)

State Core Objectives Met in this Combined Lecture and Lab Course:

1. Communication Skills, CS1 – Students will develop, interpret, and express ideas through written communication.
2. Critical Thinking Skills, CT2 – Gather and assess information relevant to a question.
3. Critical Thinking Skills, CT3 – Analyze, Evaluate, and Synthesize Information.
4. Empirical and Quantitative Skills, EQS2 – Students will describe, explain, and predict natural phenomena using the scientific method.
5. Teamwork, TW1 – Students will work cooperatively with their peers and leaders to more effectively solve problems by utilizing insights from multiple perspectives.

Student Learning Outcomes Met in this Lecture and Lab Combined Course:
(Student Learning Outcomes will be addressed in this class and/or the co-requisite lab.)

Upon successful completion of this course, students should be able to do the following:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Describe the characteristics of life.
5. Explain the methods of inquiry used by scientist.
6. Identify the basic properties of substances needed for life.
7. Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.
8. Describe the structure of cell membranes and the movement of molecules across a membrane.
9. Identify the substrates, products, and important chemical pathways in metabolism.
10. Identify the principles of inheritance and solve classical genetic problems.
11. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
12. Describe the unity and diversity of life and the evidence for evolution through natural selection.

Required Textbooks (ISBN # included) and Materials

Laboratory Text *Exploring Biology in the Lab*, 3rd edition, Morton Publishing Company.
ISBN: 9781617317552. This can be purchased through the bookstore (retails at $106.95 new) or an outside vendor.

Required Assignments & Academic Calendar

In case of inclement weather, emergency closings, or other unforeseen disruptions to scheduled classes, student must log onto their Canvas accounts for directions on where or how to continue their coursework. *This schedule is subject to change with fair notice. You will be notified in your Canvas shell if a change is required.*

All tests and quizzes will be administered in the regular classroom during normal meeting times.

	Bio 1 lab schedule
	Introduction Lab 1: Starting Point: Understanding Scientific Method
	Lab 1: Starting Point: Understanding Scientific Method Lab 2: For Good Measure: Understanding Scientific Notation and the Metric System
	NOTE: the Monday lab will not meet: Labor Day holiday Lab 2: For Good Measure: Understanding Scientific Notation and the Metric System Lab 3: The Invisible World: Understanding Microscopy
	Monday lab: makeup day Lab 4: Back to Basics: Understanding Acids, Bases, and pH Question and answer period for Lecture Test 1
	Lab 6: The Building Blocks of Life: Understanding Cell Structure and Function Lab 11: Out of One, Many: Understanding Cell Division
	Lab 8: Just Passing Through: Understanding Diffusion and Osmosis
	Lab 7: Catalysts for Change: Understanding Enzymes This lab will cover the Core Competencies required by the State: Empirical and Quantitative Skills (ESQ2) and Teamwork (TW1)
	MIDTERM EXAM, covers all labs completed Question and answer period for Lecture Test 2
	Lab 10: Breaking Bond: Understanding Cellular Respiration
	Lab 12 That's Just the Half of It: Understanding Meiosis
	Lab 13: It's All in the Genes: Understanding Basic Mendelian Genetics
	Lab 15 Mystery of Mysteries: Understanding Evolution Question and answer period for Lecture Test 3
	Lab 15 Mystery of Mysteries: Understanding Evolution
	LAB FINAL EXAM, not cumulative, covers all labs after midterm
	Optional attendance: Question and answer period for Lecture Test 4
	NO lab: lecture final week

Methods of Evaluation

Your final grade will be determined by both lecture and laboratory scores. **Seventy percent (70%) of the final grade will be based on your lecture grade and 30% will be based on your laboratory grade. You will receive the SAME grade in lecture and lab.**

To calculate a final grade in lecture and lab: You take the lecture grade and multiply by 0.70 and the laboratory grade multiplied by 0.30. You add the two resulting numbers together and get the final grade. e.g., you make a 72% average in lecture and an 86% in the laboratory. So you do the following: (0.72*0.70) + (0.86 * 0.30) = final grade. If you perform this equation, you calculate 0.50 + 0.26 = 0.76 or 76% as a final course grade, because your lecture grade contributes more to the final grade than your laboratory grade. **This calculated grade will then be reported for BOTH lecture and lab sections to the registrar.**

In the laboratory portion of the course, daily grades will be based largely on quizzes covering the material from the preceding week. Some daily grades may be based on participation in various exercises or on the completion of assignments. Students who miss a lab will receive a "0" for their daily grade that week. The lowest of the daily grades will be dropped. The remaining daily grades will be averaged and will constitute 50% of the laboratory grade.

Students will take two major lab tests. These two tests will each constitute 25% of the laboratory grade.

Quizzes and tests may consist of multiple choice, matching, short answer, fill-in-the-blank, true and false and/or discussion questions.

Categories	**Percentage**
Daily grades	50%
Midterm Test	25%
Final Test	25%

Students MUST inform the instructor BEFORE a test if they will be absent: e-mail the instructor, phone the instructor or phone the Science Department. Students that are absent for college-related activities (e.g., drama, athletic events) are still required to personally inform the instructor in advance of any absences.

The following grading scale will be used to determine your final grade in the course:

90-100 = A
80-89.99 = B
70-79.99 = C
60-69.99 = D
Below 60 = F

Following each major test, the grade may be posted in the student's grade book in the course shell on Canvas located on the Grayson website: www.grayson.edu.

Methods of Instruction

The instructor will give a brief pre-lab lecture. The student will spend the majority of the lab time actively and collaboratively working with a partner or small table group on the current day's exercise(s), while the instructor circulates offering assistance and answering questions. Group work, class discussions, power point presentations, models, etc., may also be incorporated to enhance the learning process. Reading assignments may be from the text, other printed material, or from the Internet. Students will be required to use Canvas (an online learning environment) for certain instruction/assignments.

Class Attendance
Academic success is closely associated with regular classroom attendance and course participation. **All successful students, whether on campus or online, are expected to be self-motivated.** All students are required to participate in courses regularly and are obliged to participate in class activities and complete and submit assignments following their professors' instructions. Responsibility for work missed because of illness or school business is placed upon the student. More than two (2) absences are considered to be excessive. In addition, students' eligibility to receive financial aid or live in a College dormitory can be affected by withdrawal from courses. When withdrawal occurs, any tuition refund would be made in accordance with state regulations.

Student Needs Services
The goal of Needs Services (disabilities and accommodations) is to provide students with educational opportunities when they have some exceptional situation that requires additional support. Needs Services is located on the second floor of the NEW Student Success Center.

The contact information for administrator of the services is:
Jeffri Hodge
(903) 463-8751 (voice or TTY) hodgej@grayson.edu

It is the student's responsibility to notify his or her professors of the need for any accommodations. Needs Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Tutoring
This is a FREE service provided by the Student Success Center and administered by Jeffri Hodge as well. To schedule tutoring services, login to https://grayson.upswing.io Click "Meet with a tutor" and search course or by tutor's name. There are face to face appointments that can be made here as well. Note: we are ALWAYS looking for tutors, so please talk to your instructor if you are interested in helping other students with their studies and getting paid.

Withdrawing or Dropping the Course
Students need to initiate this process. Instructors should be consulted and typically sign the drop form. Instructors have set office hours for providing these services. Please check with your instructor and make an appointment for consultation. If you wait until the last drop date in the semester, you or your instructor may be unable to complete the request to the college. If the request is incomplete, you will remain in the course and receive a grade.

Classroom Behavior
Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular attendance and an attitude that seeks to take full advantage of the educational opportunity.

Phone/electronic device Policy
All electronic devices must be turned off before entering the classroom. Electronic devices may not be visible during class. Electronic devices include, but are not limited to, the following: phones, smart watches, music players, computers, & calculators. **Any student using an electronic device in class will be penalized 20 points on his/her daily grade for that day.**

Seating
The instructor may assign seating for individual students at any time during the semester. During class, the instructor may have students move to other seats in the classroom. The instructor may inform students that they are no longer allowed to sit next to each other for the remainder of the semester.

Defacing College Property
Anyone caught defacing property in the lecture or lab will be responsible for cleaning, repairing or replacing the defaced property. The individual will also receive a zero (0) for the current lab assignment. Defacing property includes, but is not limited to, writing, marking or scratching on the tables, tabletops, chairs, cabinets, counter tops, shelving or walls.

Academic Integrity
The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the college's policy on plagiarism (see GC Student Handbook for details). Grayson College subscribes to turnitin.com, which allows faculty to search the web and identify plagiarized material.

Plagiarism is a form of scholastic dishonesty involving the theft of or fraudulent representation of someone else's ideas or words as the student's original work. Plagiarism can be intentional/deliberate or unintentional/accidental. Unintentional/Accidental plagiarism may include *minor* instances where an attempt to acknowledge the source exists but is incorrect or insufficient. Deliberate/Intentional plagiarism violates a student's academic integrity and exists in the following forms:

- Turning in someone else's work as the student's own (such as buying a paper and submitting it, exchanging papers or collaborating on a paper with someone else without permission, or paying someone else to write or translate a paper),
- Recycling in whole or in part previously submitted or published work or concurrently submitting the same written work where the expectation for current original work exists, including agreeing to write or sell one's own work to someone else,
- Quoting or copy/pasting phrases of three words or more from someone else without citation,
- Paraphrasing ideas without citation or paraphrasing incompletely, with or without correct citation, where the material too closely matches the wording or structure of the original,
- Submitting an assignment with a majority of quoted or paraphrased material from other sources, even if correctly cited, when original work from the student is expected,
- Copying images or media and inserting them into a presentation or video without citation,
- Using copyrighted soundtracks or video and inserting them into a presentation or video without citation,
- Giving incorrect or nonexistent source information or inventing source information,
- Performing a copyrighted piece of music in a public setting without permission,
- Composing music based heavily on someone else's musical composition.

Science Department Policy
Any instance of a) plagiarism b) collusion c) cheating or d) falsifying records, will result in a "0" for the assignment. The "0" assigned for cheating cannot be dropped or replaced by another grade when calculating the final course average.

Title IX
GC policy prohibits discrimination on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex, sexual orientation, spousal affiliation and protected veterans status.

Furthermore, Title IX prohibits sex discrimination to include sexual misconduct: sexual violence (sexual assault, rape), sexual harassment and retaliation.

For more information on Title IX, please contact:

Dr. Molly M. Harris, Title IX Coordinator (903)463-8714
Ms. Logan Maxwell, Title IX Deputy Coordinator - South Campus (903) 415-2646
Mr. Mike McBrayer, Title IX Deputy Coordinator - Main Campus (903) 463-8753
Website: http://www.grayson.edu/campus-life/campus-police/title-ix-policies.html
GC Police Department: (903) 463-8777- Main Campus) (903) 415-2501 - South Campus)
GC Counseling Center: (903) 463-8730
For Any On-campus Emergencies: 911

Campus-wide Student Policies
Grayson College campus-wide student policies may be found on our Current Student Page on our website:
https://www.grayson.edu/currentstudents/Academic%20Resources/index.html

Laboratory Safety Guidelines

Safety is our number one priority. To that end these are the laboratory safety guidelines:

1. Locate safety equipment: know where to find exit(s), fire extinguisher, and first aid kit. Know how to use the safety equipment.

2. Do not eat or drink in the laboratory.

3. Students should wear appropriate attire for laboratory work. Students cannot wear open toed shoes, e.g., sandals, "flip-flops"

4. Monitor risk: inform the instructor if you are pregnant, taking immunosuppressive medicines, or have any medical condition that might require special precautions in the lab, such as medications that would influence your response or reflex time. Under NO circumstances should you attend a lab session while "under the influence" of any chemical substance.

5. Avoid spills: place liquids toward the center of the bench, away from the edges.

6. Labels: read labels carefully before removing substances from containers. Properly label glassware before use.

7. Mouth pipetting is prohibited, use mechanical pipetting devices.

8. Discard used chemicals and materials into appropriately labeled containers, do not dispose of them down the sink unless specified by the instructor.

9. Broken glass: be careful handling broken glassware with bare hands. Dispose of all cracked or broken glassware in special puncture resistant containers found in the labs, not the regular trash can.

10. Report any spills, damaged equipment, accidents, strange occurrences, or other safety incidents to the instructor.

11. Professional conduct is expected to avoid creating dangerous situations. If you have any questions concerning the safety of a procedure, consult your instructor.

12. Know the location of the Material Safety Data Sheets (MSDS's). These are available electronically.

13. Thoroughly wash hands with soap and water before leaving the laboratory.

WAIVER OF LIABILITY: (You will sign a waiver in class acknowledging this.) As a Science student in a Grayson College laboratory course, you will be advised of laboratory safety measures and rules and agree to comply with these rules at all times during enrollment in this laboratory course. In addition, you agree to hold harmless GC in any event resulting from the laboratory environment.

CONTACT LENSES: If you choose to continue wearing contact lenses in spite of our advising against it, you must sign another waiver in the class acknowledging that you are aware of the added health risks associated with wearing contact lenses in science labs, but have elected to do so against the advice of instructor. (If you do not sign this, you will have agreed not to wear contact lenses at any time during this course.)

Grayson College is not responsible for illness/injury that occurs during the normal course of classroom/lab/clinical experiences.

These descriptions and timelines are subject to change at the discretion of the Professor.