

Biology 101 & 102

A. Linwood Holton Governor's School

Course Syllabus

Contact Information

Instructor: Mrs. Julie Reimer

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Communication Guidelines

- ❖ Email is the best way to contact me. I check and respond to email frequently during the school day.
- ❖ I will respond to any email or voicemail message within 24 hours during the week. On weekends, a response will be within 48 hours. If you do not receive a response from me within these time frames, please re-send the email.
- ❖ Students must use their @hgs.k12.va.us email account to communicate with me.

Course Catalog Description:

BIO 101 - General Biology I: Focuses on foundations in cellular structure, metabolism, and genetics in an evolutionary context. Explores the core concepts of evolution; structure and function; information flow, storage and exchange; pathways and transformations of energy and matter; and systems biology. Emphasizes process of science, interdisciplinary approach, and relevance of biology to society. Part I of a two-course sequence. This course has a lecture component (3 credits) and a lab component (1 credit).

BIO 102 - General Biology II: Focuses on diversity of life, anatomy and physiology of organisms, and ecosystem organization and processes in an evolutionary context. Includes basic introduction to the taxonomy, structure, and physiology of plants and animals; introduces concepts of the diversity of living organisms, ecology, and conservation biology. Part II of a two-course sequence. This course has a lecture component (3 credits) and a lab component (1 credit).

Course Materials

1. Principles of Life, 2nd edition, Hillis, Sadava, Hill, and Price (ISBN 978-1-4641-5641-0)
Textbooks are loaned to the student and must be returned at the end of the course
2. Launchpad, a website which contains an electronic copy of the textbook, additional study resources, and assignments. A login code will be assigned to each student at orientation.
3. Lab kit and project supplies: Supplies for certain projects will be provided for use throughout the course. These items are the property of the A. Linwood Holton Governor's School and are expected to be returned to the Governor's School office in the same condition they were issued.

Course Objectives

Biology 101

Students should be able to:

- Demonstrate an understanding of the language/vocabulary of biology
- Identify the properties that distinguish living from non-living things
- Demonstrate an understanding of the basic concepts of chemistry as they apply to biological sciences
- List the four categories of macromolecules and provide examples
- Identify structures of prokaryotic and eukaryotic cells
- Demonstrate an understanding of the flow of energy through living systems by relating cellular respiration and photosynthesis
- Explain different phases of mitotic cell division
- Identify the differences and similarities between mitosis and meiosis, and explain how organisms use these processes
- Predict the outcome of a genetic trait when given the genotype and phenotype of 2 parents
- Understand the cellular functions of DNA, RNA, and proteins
- Understand DNA replication, transcription, and translation as underlying mechanisms of inheritance
- Describe the processes of evolution
- Use comparative biology to read and construct phylogenetic trees

Biology 102

Students should be able to:

- Differentiate between bacteria, archaea, viruses, animals, plants, and fungi
- List distinguishing characteristics of major plant and animal phyla
- Identify the parts of a plant, and differentiate between gymnosperms and angiosperms
- Describe processes of plant growth and development, reproduction and flowering
- Relate soil nutrients to plant growth and nutrition
- Understand how basic animal systems work together to coordinate animal functions
- List anatomical structures for the respiratory, circulatory, and nervous systems
- Describe the importance of the endocrine system and salt/water balance for maintenance of homeostasis
- Describe animal reproduction and development
- Compare and contrast different types of animal behaviors
- Describe the components of Earth's closed ecological system
- Describe interactions between species in ecological communities

Method of Evaluating Student Achievement

Assessment and grading policies

Course grades will be calculated as follows:

20% Launchpad assignments (online Textbook space with review assignments)

25% Laboratory assignments and reports

15% Class activities and assignments

10% Quizzes

30% Tests and final exam

Expectations for each assignment will be clearly explained throughout the course. Please ask for clarification whenever you have questions about an assignment. Information about assignment submission, class absences, and testing policies are detailed in the *Course Policies* section below.

Grading Scale and final grades:

90-100: A 80-89: B 70-79: C 60-69: D Below 60: F

The HGS submits numeric grades to your home high school. Check with your school guidance department to determine if your high school uses a different grading scale for your high school report card. The HGS letter grade based on the 10 point scale above will be submitted to community colleges for your dual enrollment grade. The grade you earn during fall semester is your community college grade for Biology 101. The grade you earn during spring semester is your community college grade for Biology 102.

Course delivery

1. CourseSites: This website contains resources and assignments. CourseSites can be accessed at www.hgs.k12.va.us by clicking on the 'For Students' tab, then select 'CourseSites' from the drop-down menu to access the log in page.
2. Launchpad: This website contains additional assignments and study resources, including an e-copy of the textbook. You will receive a passcode and directions to log into Launchpad during orientation.
3. iLinc Virtual School: The online classroom where we meet "live" each class period. The virtual school can be accessed through the HGS website: www.hgs.k12.va.us. Click on the 'For Students' tab, then select 'Virtual School' from the drop-down menu to access the log in page.
4. Email: Important course announcements will be emailed to you. Check your @hgs.k12.va.us email *every day* before class begins. Email is accessed from www.hgs.k12.va.us. Click on the 'For Students' tab, then select 'Email' from the drop-down menu.

Course Policies

Daily announcements: Check your HGS email and CourseSites at the beginning of each class period for updates and assignments.

Attendance and make-up work: You are expected to attend all class sessions and participate in all activities and assignments. The attendance policies of your home high school are to be followed. If you miss a class session, it is your responsibility to contact the instructor on the day you miss class (or before if possible) to schedule make-up assignments. Adjusted deadlines for make-up assignments will be determined by the

instructor. The student is responsible for the subsequent completion of all work missed during an absence. A. Linwood Holton Governor's School is committed to academic quality and student success. Elements that support both of these values are regular attendance and participation in class.

Assignment submission: Written assignments must be submitted through CourseSites by the date and time due. Emailed assignments will not be accepted. Late assignments will be accepted, but 10 points will be deducted for each day they are late.

Quiz policies: Quizzes will be short, timed, open note assignments that may be announced or unannounced. If a student is absent the day a quiz is given, they have 2 school days to take a make-up quiz. After 2 days, the student will receive a 0 grade for that quiz. The lowest 2 quiz grades each semester will be dropped.

Test policies: Tests will be given at the end of each unit. Tests will be proctored by a facilitator at the students' home high schools and will be closed notes, closed book, closed internet search, timed tests. Test make-ups may be granted at the instructor's discretion if proper documentation is provided from the student.

Honesty and plagiarism: All assignments will be submitted under an honor pledge to show independent work. Plagiarism includes copying and pasting wording from websites without giving credit to the author of the website. Academic honesty is required; any student caught plagiarizing or cheating will receive a failing grade for that assignment and will risk expulsion from the course. For written assignments, any wording that does not belong to the student must be cited properly to show the original author. Proper citation styles will be discussed during the course.

Internet use: Resist the temptation to become sidetracked by other computer programs during class time. You are expected to take notes, participate in class discussions, and ask questions during class. Remember that your instructor can glimpse your computer screen at any time during class without your knowledge. Being caught off-task could cause you to be dismissed from the class session.

How to succeed: You are responsible for the outcome of your educational experience. Your instructor will introduce you to fundamental concepts, explain their importance, and give examples; however it is up to you to take time to master the material. You must take an active role in the learning process by listening and taking notes during class, reading the textbook carefully, and studying the extra resources provided. Studying Biology is similar to learning a foreign language because of the volume of new vocabulary that must be mastered. Your instructor is always available to help clarify any information and give tips on study skills and techniques. Relevant questions during class or outside of class via email are encouraged. Studying with your classmates is also an excellent way to review information and study for exams.

Course Information

This class is a dual enrollment course and college credits are offered through one of four community colleges based on the location of the high school the student attends. The four community colleges that may be awarding the credit are Mountain Empire Community College, Southwest Virginia Community College, Virginia Highlands Community College, and Wytheville Community College. To contact the A. Linwood Holton Governor's School:

A. Linwood Holton Governor's School
P. O. Box 1987
Abingdon, VA 24210
(276) 619-4326
www.hgs.k12.va.us

Information and instructions for individuals with disabilities

Students are encouraged to discuss any special problems, needs or accommodations with your instructor. If you have a disability or other need for reasonable accommodation in order to successfully complete the requirements of this course, please contact the director of the Holton Governor's School at (276) 619-4327 to discuss this matter confidentially. Necessary and reasonable accommodations for students with disabilities will be made when needed. Individuals requiring temporary handicapped parking accommodations on the community college campus due to short-term illness should contact the Office of Student Services. All correspondence will be kept confidential.

Emergency Statement

In the event of a major interruption of technological connectivity or actual emergency affecting the student's school, the offices of ALHGS, or the community college through which a student is receiving his/her credit - course requirements, class meeting times or schedules, assignment deadlines, and grading schemes are subject to changes that may include alternative delivery methods, alternative methods of interaction with the instructor, alternate class materials, changes to class membership, a revised attendance policy; a revised semester calendar and/or grading scheme, etc. For more general information about plans for dealing with such catastrophic events or emergencies, please consult the A. Linwood Holton Governor's School Web-Page (<http://www.hgs.k12.va.us/>) and/or the college website. Should such a situation arise, ALHGS's Administrator will work closely with the appropriate school division and college personnel to resolve it as soon as possible. Students will be contacted through available forms of communication and given specific directions as to how they will proceed to complete their course work and how timelines will be adjusted.