

**BIOL 1107K: Principles of Biology I**  
**Department of Biology, College of Math and Science**  
**Valdosta State University**  
**Fall 2021, Syllabus and Course Policies**

Lecture: Bailey Science Center, Room 1011 – MWF 8:00-8:50 AM

**Section A:** CRN# 83328 (3 credit hours)

Instructor: Eric Chambers (Dr. Chambers) Office: BSC 2214 Phone: 229-249-2736

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Office Hours: Wednesday 2:00-4:00 PM; by appointment

Graduate Assistant (GA): TBA

**Course Description:** An introduction to the principles of biology for science majors, with an emphasis on the cellular nature of life. Concepts covered include the origin and early evolution of cellular life; cell structure, function, metabolism, and reproduction; cell signaling; and gene regulation in bacteria and eukaryotes. There are no prerequisites for this course. BIOL 1107 lab is a co-requisite for students who have not already completed that course and BIOL 1100 is a co-requisite for Freshman Biology majors (offered Fall semesters only)

**Required Materials:**

1. **Textbook:** We will be using a textbook provided by OpenStax, a 501(c)(3) nonprofit charitable corporation associated with Rice University in Texas. The goal of this organization is to make higher education accessible to **all** students. To achieve this goal, they provide textbooks that are **completely free online**, or they provide **low cost print versions** of the textbook through the student bookstore or Amazon.com. You should choose any **ONE** of the options below.
  - A. **Free version:** <https://openstax.org/details/books/biology-2e>; It is recommended that you download the entire pdf so that you always have access to your book.
  - B. **Hardcover version:** ISBN: 978-1947172517. You can purchase a hardcover version through Amazon.com or the VSU Bookstore.
  - C. **Paperback version:** Purchase this version from Amazon.com. They use a third-party vendor to print a two-volume, shrink-wrapped bound softcover version of the textbook. The content is the same as the digital and hardcover versions. The text and graphics are printed in B&W.
  
2. **Interactive Response System** (select **ONE** of the two options)
  - a) Turning technologies Mobile phone app & 1 yr. account (approx. \$24.99)
  - b) Turning Technologies QT Clicker Device & Turn Tech 1yr Acct (approx. \$49.98)

**Course goals:** The purpose of this course is to provide you with a broad introduction to the study of biology. The course is introductory and topical in nature, but upon completion of this course you will be prepared for advanced specialized courses in biology. It will also provide you

with a background to better understand many of the technological issues and challenges confronting our nation and the world.

This course will assist you in developing communication skills as well as information processing skills. These abilities are critical for all students, both those who wish to attend professional school (medical, dental, etc.) and graduate school as well as those who will move directly into the job market following graduation. Your critical thinking skills will be enhanced through analysis of lab exercises, class assignments, and test questions.

**Educational outcomes: Listed at the end of syllabus**

<u>Assessments:</u>	<u>Points</u>
○ Unit Exams	500
○ Rapid Response	100
○ Final Exam (optional)	replacement points (100)
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TOTAL POSSIBLE POINTS	600
Extra Credit	Instructor Discretion

**Dropped Grade:** The lowest score you receive among either the lecture exams, or the Rapid Response questions will be dropped and not used to calculate your final grade. This means that although there are 700 possible lecture points only 600 points will count toward your final grade.

To determine your lecture grade, divide the total points earned by the total possible points and divide by 100.

Table 1.

<u>Exam 1</u>	<u>Exam 2</u>	<u>Exam 3</u>	<u>Exam 4</u>	<u>Exam 5</u>	<u>Rapid Response questions</u>	<u>Final Exam</u>	<u>Total minus lowest score</u>
<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>600</u>

Fill in the empty cells with your exam and assignment scores.

**Explanation of Lecture Assignments:**

**Lecture Exams: Students will have 50 minutes to complete each exam**

A total of 5-unit exams will be given during the semester. The dates are included in the tentative schedule at the end of the syllabus. All exams will be in a multiple-choice format. I typically only allow make-up exams for university-related reasons or approved medical/personal issues. If you become ill, please email me ASAP. If you know you will miss an exam for a university-related reason, please contact me ahead of time to discuss an appropriate date for scheduling your make-up exam.

**Rapid Response Polling Questions:** In this course we will utilize TurningTechnologies web-based polling technology to increase class engagement during lecture. Web-based polling questions

will provide you a chance to receive immediate feedback on your understanding and interpretation of important biological principles. Polling questions will begin during the second week of class.

You will receive 1 point for each poll question that you answer during class (both correct and incorrect responses earn 1 point). You will receive 0 points if you do not respond during class or if you miss class. It is **your** responsibility to remember your response device and to make sure it is charged. These are not attendance points. **Do not come up to me after class to tell me you were in class, or to give me a piece of paper with the responses. You only earn the points by responding using the web-based system! You are responsible for trouble shooting any technical issues and contact TurningTechnologies customer support.**

**Grade Scale:** For Biology majors a grade of C or higher is required for this course.

A 90-100% (540-600 points)

B 80-89% (480-539 points)

C 70-79% (420-479 points)

D 60-69% (360-419 points)

F < 60% (0-359 points)

**Notes on grading:** Students should note that a grade of "A" in this course represents an exemplary command of the material covered. To obtain this grade of excellence, it is recommended that students study daily and clarify with their instructor any problems regarding course information, as they arise.

**Biology Tutoring:** The Academic Support Center (ASC) at Valdosta State University is located on the second floor of the Odum Library. The ASC provides free peer tutoring in core curriculum courses, including biology, chemistry, math, writing, and foreign languages. The ASC also provides periodic workshops covering topics such as time management and study skill development. Call 333-7570 to make an appointment, or visit their website at

<https://www.valdosta.edu/asc/>

**Academic conduct:** Cheating and plagiarism will not be tolerated and may result in a failing grade for the assignment, exam or the class.

#### **Lecture Conduct:**

Arrive on time

- Quickly find a seat
- Do not congregate in hall-way outside of class nor in the aisles of the lecture hall
- Do not move the desks—they have been positioned so as to ensure proper physical distancing
- Turn off/silence cell phones during class and lab.
- Remove headphones and earbuds while in lecture, lab, and during exams.
- Don't talk during lecture except during active learning exercises or asking a question
- Avoid leaving class early
- You and you alone use your clicker in class. If your clicker is found in the possession of another student both of you will lose all your clicker points for the semester!
- Do not leave lecture hall until you are dismissed—we will dismiss students in the rear of room first—then those near the front

**Procedure for exams:**

- No books, electronic devices, or notebooks will be allowed during exams and students using such items will be asked to leave and will receive a zero for the exam.
- No talking will be allowed during the exam, but students are permitted to ask the instructor questions.
- Each student will be given an exam to be completed and handed back to the instructor.
- Students must bring a pencil and will take the exam during the stated lecture time only.
- **NOTE:** You will have the class time only to complete each lecture exam.

**Student identification:** Students should have in their possession at all times their VSU student identification card. Because of the large size of the class this semester we will be checking student ID or another form of picture ID during exams.

**Privacy Act (FERPA):** The Family Educational Rights and Privacy Act (FERPA) prohibits the public posting of grades by social security number or in any manner personally identifiable to the individual student. No grades can be given over the telephone or over email because positive identification can't be made.

**Access Statement:** Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The Access Office is located in Farbar Hall. The phone numbers are 229-245-2498 (V), 229-375-5871 (VP) and 229-219-1348 (TTY). For more information, please visit VSU's Access Office or email: [access@valdosta.edu](mailto:access@valdosta.edu).

**Title IX Statement:** Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: Maggie Viverette, Director of the Office of Social Equity, [titleix@valdosta.edu](mailto:titleix@valdosta.edu), 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 229-333-5463.

**Campus Gun Carry Statement (HB 280):** If you choose to carry a concealed weapon on campus, you are responsible for knowing and following the law. Refer here for FAQ: <https://www.valdosta.edu/administration/finance-admin/police/campuscarry/>

**Coronavirus Resources for Students:** VSU cares about student success both on and offline, and a variety of resources are available to help students both academically and personally during the Fall 2020 semester.

One of the best resources is VSU's Coronavirus FAQ page located at <https://www.valdosta.edu/health-advisory/faq.php>. Information is available there about a variety of topics in VSU's return-to-campus plan. A website devoted to the health and wellness

of VSU students can be seen at <https://www.valdosta.edu/administration/finance-admin/campus-wellness/student-resources.php>.

You can find information, including how you can access the Brightspace Pulse app that will allow you to view BlazeVIEW on your smartphone at <https://www.d2l.com/products/pulse/>. In BlazeVIEW, all VSU students have a course with guides for how to use tools in BlazeVIEW; search for “VSU BlazeVIEW Student Tutorial 2020.”

#### **Fall Semester 2021 Guidance FROM THE UNIVERSITY SYSTEM OF GEORGIA**

- All faculty, staff, and students are strongly encouraged to receive a COVID-19 vaccine.
- No student, faculty or staff member should be treated differently based on their COVID-19 vaccination status.
- Students should not be asked about their vaccine status and segregated in a classroom or from other instructor-student interactions (e.g., office hours, group work, field trips, labs, etc.) based on their vaccination status.
- Vaccination status can be used to determine whether or not a person should quarantine after a close contact with a person who tests positive for COVID-19.
- Masks/face coverings are not required on campus. Two exceptions may apply on campuses – health center/medical facility and public transit. Un-vaccinated individuals are strongly encouraged to continue wearing a mask or face covering.
- Institutions will return to campus in the fall with no social distancing measures. Un-vaccinated individuals are strongly encouraged to continue social distancing whenever possible.

#### **\*Key Dates :**

**Aug. 16, 2021 – First day of class**

**Aug. 19, 2021 - Registration for Fall semester ends (11:59 pm)**

**Sept. 6, 2021 – Labor Day Holiday (University closed/no classes)**

**Oct. 6, 2021 – In-progress grades due (5:00 PM)**

**Oct. 7, 2021 – Official midterm; Students can view In-progress grades**

**Oct. 11-12, 2021 – Fall break**

**Oct. 14, 2021 – Withdrawal deadline for full-term VSU courses Fall 2021**

**Nov. 23, 2021 – Last day for on-campus classes**

**Nov. 24-26, 2021 – Thanksgiving Holidays (University closed/no classes)**

**Dec. 7-10, 2021 – Final Exams**

**Tentative Lecture Schedule, BIOL 1107K, Section A, Fall 2021**

<b>Date</b>	<b>Topics</b>	<b>Chapter</b>
August 16	Syllabus	Syllabus
August 18	The Science of Biology	1.1
August 20	Themes and Concepts of Biology; Understanding Evolution	1.2; 18.1
August 23	Atoms, isotopes, ions, and molecules	2.1
August 25	Water and carbon	2.3
August 27	Synthesis of macromolecules	3.1
<b>August 30</b>	<b>Exam #1</b>	<b>Ch. 1, 2, 18.1</b>
September 1	Carbs and Lipids	3.2; 3.3
September 3	Proteins and Nucleic acids	3.4; 3.5
<b>September 6</b>	<b>Labor Day – No class</b>	-----
September 8	Studying Cells and Prokaryotic cells	4.1; 4.2
September 10	Eukaryotic cells and Endomembrane System	4.3; 4.4
September 13	Cytoskeleton and Cellular connections	4.5; 4.6
September 15	Cell membranes and passive transport	5.1; 5.2
September 17	Active transport and Bulk transport	5.3; 5.4
<b>September 20</b>	<b>Exam #2</b>	<b>Ch. 3, 4, and 5</b>
September 22	Energy and Metabolism	6.1; 6.2
September 24	Thermodynamics and ATP	6.3; 6.4
September 27	Enzymes	6.5
September 29	Glycolysis, Pyruvate oxidation, and TCA cycle	7.1; 7.2; 7.3
October 1	Oxidative Phosphorylation metabolism and without oxygen	7.4; 7.5
October 4	Overview of photosynthesis	8.1
October 6	The light dependent reactions	8.2
October 8	Using light energy to make organic molecules	8.3
<b>October 11</b>	<b>Fall Break - No Class</b>	-----
October 13	Cell division and the cell cycle	10.1; 10.2
October 15	<b>Exam #3</b>	<b>Ch. 6, 7, and 8</b>
October 18	Control of the cell cycle and Cancer	10.3; 0.4
October 20	Meiosis	11.1
October 22	Sexual Reproduction	11.2
October 25	History DNA and DNA structure and sequencing	14.1; 14.2
October 27	DNA replication in prokaryotes	14.3; 14.4
October 29	DNA replication in Eukaryotes and DNA repair	14.5; 14.6
<b>November 1</b>	<b>Exam #4</b>	<b>Ch. 10, 11, 14</b>
November 3	Genetic Code and Prokaryotic transcription	15.1; 15.2
November 5	Eukaryotic transcription and processing	15.3; 15.4
November 8	Ribosomes and protein synthesis	15.5
November 10	Prokaryotic regulation gene expression	16.1; 16.2
November 12	Regulation and post-transcriptional regulation of Eukaryotes	16.3; 16.4
November 15	Eukaryotic post-translational regulation	16.6
November 17	Biotechnology and genome mapping	17.1; 17.2
November 19	Whole genome sequencing	17.3
November 22	Genomics and Proteomics	17.4; 17.5
November 29	Cell communication	9
December 1	Cell communication	9
<b>November 29</b>	<b>Exam #5</b>	<b>Ch. 15, 16, 17, and 9</b>
December 6	<b>Review Session</b>	<b>Ch. 1-17</b>
<b>December 8</b>	<b>Final Exam 8:00-10:00 am</b>	<b>Cumulative exam</b>

#### Valdosta State University General Educational Outcomes (GEO)

1. Students will demonstrate understanding of the society of the United States and its ideals.
2. Students will demonstrate cross-cultural perspectives and knowledge of other societies.
3. Students will use computer and information technology when appropriate.
4. Students will express themselves clearly, logically and precisely in writing and in speaking, and they will demonstrate competence in reading and listening.
5. Students will demonstrate knowledge of scientific and mathematical principles and proficiency in laboratory practices.
6. Students will demonstrate knowledge of diverse cultural heritages in the arts, the humanities, and the social sciences.
7. Students will demonstrate the ability to analyze, to evaluate, and to make inferences from oral, written and visual materials.
8. Students will demonstrate knowledge of principles of ethics and their employment in the analysis and resolution of moral problems.
9. Students will demonstrate understanding of the physical universe and the nature of science, and they will use scientific methods and/or mathematical reasoning and concepts to solve problems.

#### Department of Biology Educational Outcomes (BEO)

1. Develop and test hypotheses, collect and analyze data, and present the results and conclusions in both written and oral format used in peer-reviewed journals and at scientific meetings.
2. Describe the evolutionary process responsible for biological diversity, explain the phylogenetic relationships among the other taxa of life, and provide illustrative examples.
3. Demonstrate an understanding of the cellular basis of life.
4. Relate the structure and function of DNA/RNA to the development of form and function of the organism and to heredity
5. Interpret ecological data pertaining to the behavior of the individual organism in its natural environment; to the structure and function of populations, communities, and ecosystems; and to human impacts on these systems and the environment.