

Valdosta State University, BIOL 1107K, Sections A-H

(4 Credit Hours)

Principles of Biology I – Spring 2019

Syllabus & Course Policies

For Science, Math,
and Exercise
Physiology Majors

Lecture: BC 1011 – MWF, 9:00-9:50 am

Lecture Instructor: Dr. Emily Cantonwine (Dr. Cantonwine)

Office: BC 2031, Phone: (229) 333-5337

Email: egcantonwine@valdosta.edu

Office hours: 10:30-11:30am & 1:30-5:00pm on the day homework is due (M or W), or by appointment.

Graduate Assistants (GAs): TBA – Check BV announcements

Embedded Tutor: TBA – Check BV announcements

Lab Sections: BC 1083

A Monday, 10:00-12:50, Dr. Elder

C Tuesday, 2:00-4:50, Dr. Cantonwine

E Thursday, 9:30-12:20, Dr. Kang

G Monday, 3:00-5:50, Dr. Nienow

B Tuesday, 9:30-12:20, Dr. Cantonwine

D Wednesday, 10:00-12:50, Dr. Elder

F Thursday, 2:00-4:50, Dr. Kang

H Wednesday, 3:00-5:50, Dr. Kang

Welcome to Principles of Biology I. This is the first course in a series designed to help you develop a strong foundation in the biological sciences to build on throughout your studies at VSU and beyond.

BIOL 1107 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 1100 is a co-requisite for Freshman Biology majors that have not yet completed this course (offered Fall semesters only)

Required Resources:

| | | | |
|---------------|---|----------------------|--------------|
| 9781934931523 | Turning Technologies QT Clicker Device & Turn Tech 1yr Acct | Turning Technologies | Required |
| 9780738060064 | Methods & Investing (Valdosta Custom) | Goddard | 6th Required |
| 9781319025311 | Life: The Science of Biology (w/eBook + Access) | Sadava | 11th |
| 9781319126193 | Life (LoosePgs)(w/LaunchPad Access) | Sadava | 11th |
| 9781319125714 | Life: Biology (w/LaunchPad Acc) | Sadava | 11th |

} Choose one version

Learning Goal

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.

Course Objectives and Outcomes (refer to Outcome section at end of syllabus for more information)

By the end of this course, students will be able to

- 1) answer questions that demonstrate an understanding of fundamental concepts of biology, including the scientific method and experimental design; cellular structure, function, metabolism, and reproduction; the nature of the gene and its action; and the mechanisms of evolution (GEO 5; BEO 1-4)
- 2) perform a variety of standard lab techniques used in biological research (GEO 5)
- 3) use critical thinking skills and written communication skills to present the results and conclusions of data collected in the lab in standard scientific writing format (GEO 4 & 7; BEO 1)

Assessments:

Lecture (75% of final grade; 750 points)

| <u>Assessments</u> | <u>Points</u> | <u>SCALE Unit</u> |
|----------------------------|--------------------------|-------------------|
| ○ Unit Exams (5) | 100 each | A ≥ 90.0% |
| ○ Clicker + Homework Grade | 50 + 50 (100 total) | B ≥ 80.0% |
| ○ Final Exam (optional) | replacement points (100) | C ≥ 70.0% |
| ○ <u>Procedure Grade</u> | <u>50</u> | D ≥ 60.0% |
| TOTAL POSSIBLE POINTS | 650 | F ≤ 59.99% |
| Extra Credit | 30 | |

Lab (25% of final grade) - Refer to your lab syllabus for assessment details

Explanation of Lecture Assessments:

Unit Exams. Students will have 50 minutes to complete each exam. If you wake up late on exam day, come to the classroom. As long as this happens only once, you can complete the exam. If you completely miss the exam, see me ASAP to schedule a make-up. Make-up exams will be a mix of multiple choice and short answer questions. If you know you will miss an exam for a university-related reason, please schedule the make-up before the exam date. You may take the original exam early, or the make-up exam afterwards.

Clicker Grade. Beginning the second or third week of class, lectures will include an assessment using clicker questions. Each correct answer will count 2 points, incorrect answers will count 1 point, and questions that are not answered will count 0 points. To participate, students must be counted as present (see Attendance/Tardy Policy). *Individual clicker assessments* will be posted to Blazeview following the lecture. At the end of the semester, your Clicker Grade will be calculated as the average percentage after the lowest clicker score is dropped / 2. *It is your responsibility to get my approval for an excused absence and to make sure that the GA receives documentation of your excuse & my approval. If you allow someone to use your clicker in your absence, or if you use someone's clicker in his or her absence, you will receive a zero for the clicker grade.*

Homework Grade. For each assigned Chapter, students will have the option of completing one of two types of homework assignments, 1) defining vocabulary words and completing a vocabulary quiz on Blazeview, or 2) completing the Learning Curve adaptive reading quiz on LaunchPad. Any student electing to take the vocabulary quiz, must **hand write the vocabulary words** and have Dr. Cantonwine or the GA **check this work before 5:00pm on the day the quiz is due**; otherwise, the vocabulary quiz will not count. If you fail to get your words checked, the only way to earn the grade on the evening it is due is to do the Learning Curve quiz. If you choose to do both of the quizzes, the one with the highest score will count. See the tentative schedule for expected due dates, and check Blazeview Announcements to see if any due dates change. Of the 13 quizzes, only 10 will count. This grade will be calculated as the average percentage of the 10 highest chapter scores / 2.

Final Exam. The final exam grade is worth 100 points and will replace the lowest unit exam grade or the clicker + homework grade. If you are happy with your grade prior to the final exam, you do not need to take the final. The final is cumulative.

Procedure Grade (PG). This grade will evaluate how well you follow course policies and procedures. Students are expected to attend class regularly, arrive to class on time, avoid using smart devices (besides clickers), and keep disruptions to a minimum. Points will be deducted for absences, tardiness, cellphone use, and disruptive behavior. * PLEASE NOTE* *If you need access to your cell phone during class due to an emergency, you may sit in one of the seats at the back of the classroom. Please see the GA on the morning that you need access. There are a limited number of seats where laptops or other note taking devices may be used during lecture. See the GA to select an approved seat.*

Extra Credit. There will be 30 possible extra credit points. The extra credit quizzes will be posted to the Assessment section of Blazeview. Check BV announcements to see when the quizzes open and close. If cheating is suspected, the extra credit opportunity will be taken away from the entire class. **NO ANSWER SHARING!**

Monitoring and computing your grade. Exam, clicker, & homework grades will be posted to the combined Blazeview page (**Principles of Biology I Section X01 SPRING 2019 CO**). Your grade can be computed at any time using the following equation (see me during office hours if you would like help with this calculation):

$$\text{Final Grade} = [(\text{total points earned}/\text{total possible points}) \times 75] + (\text{average \% lab grade} \times 0.25)]$$

Course Policies and Procedures for Lecture:

Attendance/Tardy Policy. Attendance is not required in lecture, but it is expected, and you must be present to earn a clicker grade each day. You will be automatically counted present if you are sitting in your assigned seat at the beginning of class. If you arrive late, please gently close the door behind you (they make a lot of noise!).

Assigned seats. Assigned seats will be used (beginning the second week of class) to keep track of student attendance for the purpose of monitoring attendance and clicker usage. *You are welcome to change seats (temporarily or permanently) during the semester, but it is your responsibility to inform the graduate assistant of this change prior to making the move; otherwise, your pooled clicker grade may be dropped if you are counted absent but your clicker is detected!*

Expectations of conduct. I expect students to pay attention to the lecture and take notes. Students should not be disruptive to the instructor or other students. Only drinks and snacks that can be consumed quietly are acceptable (breakfast is not acceptable!). Cell phones and other smart devices are prohibited once class begins. Laptops are not permitted without prior approval.

Office hours and emails. The best time to come to my office is during office hours. Appointments are not necessary during office hours, just show up. If my office hours do not work for you, please just come by at your convenience to see if I am free to meet. Unless I am getting ready for a class or meeting with a research student, I can usually find time for you. But if not, we will set-up an appointment.

Concealed Carry: Firearms are not permitted in BIOL 1107 lecture because the course includes some students who are still in high school.

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: titleix@valosta.edu

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.

Academic Integrity: I follow the Academic Honesty Policies and Procedures of the University and the Department of Biology's Policy on Plagiarism. For more information, refer to www.valdosta.edu/academic/AcademicHonestyPoliciesandProcedures.shtml and www.valdosta.edu/biology/documents/biologyplagiarism.doc "Academic Integrity/ Honesty" means performing all academic work without plagiarism, cheating, lying, tampering, stealing, receiving unauthorized or illegitimate assistance from any other person, or using any source of information that is not common knowledge.

Important information:

- For Biology majors, a grade of C or higher is required to move on.
- Midterm is the last day to withdraw from the course.

Tentative Lecture Schedule, BIOL 1107K, Sections A-H, Spring 2019

| Week | Subject | Chapters | Homework |
|----------|--|---|---|
| Jan 14 | Syllabus Living organisms are similar Evolution | Introduction 1.1 Evolution | |
| Jan 21 | <i>MLK Jr. Day – No Class</i> Investigating life through experiments Cellular structure & function | No Class 1.2 5.1-5.3 | HW Ch.1 (due Wednesday, 11:59pm) |
| Jan 28 | Cellular structure & function Extracellular structure & evolution of eukaryotic cells Cellular membrane structure & function | 5.3 5.4-5.5 6.1 | HW Ch.5 (due Monday, 11:59pm) |
| Feb 4 | EXAM 1 (Monday, Feb 4 - Chapters 1 & 5) Basic chemistry Macromolecule intro & lipids | EXAM 1 2.1-2.3 3.1 & 3.4 | HW Ch. 2 (due Wednesday, 11:59pm) |
| Feb 11 | Proteins Carbohydrates Cell membrane adhesion & recognition, Passive transport | 3.2 3.3 6.2-6.3 | HW Ch.3 (due Monday, 11:59pm) |
| Feb 18 | Active transport pH & review EXAM 2 (Friday, Feb 23, Chapters 2.1-2.4, 3 & 6) | 6.4-6.5 2.4 EXAM 2 | HW Ch. 6 (due Monday, 11:59pm) |
| Feb 25 | Energy, Enzymes, & Metabolism Enzymes, & Metabolism cont. Glycolysis & Krebs cycle | 8.1-8.3 8.2-8.5 9.1-9.2 | HW Ch. 8 (due Monday, 11:59pm) |
| March 4 | Cellular respiration cont. Cellular respiration cont. Photosynthesis part 1 | 9.3-9.5 9.1-9.5 10.1-10.3 | HW Ch. 9 (due Monday, 11:59pm) |
| March 11 | Photosynthesis part 2 Catch-up or Review Ch. 8-10 EXAM 3 (Friday, March 15, Ch. 8-10) | 10.5 Catch-up or Review Exam 3 | HW Ch. 10 (due Monday, 11:59pm) |
| March 18 | - SPRING BREAK - | ----- | ----- |
| March 25 | Nucleic acids; DNA and its role in heredity From DNA to protein (transcription) From DNA to protein (translation) | 4.1, 13.1-13.2 14.2-14.4 14.5-14.6 | HW Ch. 14 (due Monday, 11:59pm) |
| April 1 | The cell cycle – mitosis & cytokinesis DNA replication Sexual life cycle – meiosis | 11.1, 11.3 13.3 11.4-11.5 | HW Ch. 13 (due Monday, 11:59pm) |
| April 8 | Catch-up or Review EXAM 4 (Weds, April 10, Ch 4.1, 11, 13, 14) Basic Mendelian Genetics | Catch-up or Review Exam 4 12.1 | HW Ch. 11 (due Monday, 11:59pm) |
| April 15 | Mutations Mutations and diseases How mutations are analyzed & PCR | 15.1 15.2 15.3 & 13.5 | HW Ch 15 (due Monday, 11:59pm) |
| April 22 | Genetic disease screening & treatment Cell communication Communication & multicellularity | 15.4-15.5 7.1-7.2 7.3-7.5 | HW Ch 7 (due Monday, 11:59pm) |
| April 29 | Putting it all together – Cancer case study part 1 Putting it all together – Cancer case study part 2 Catch-up or Review | 11.2 & 11.7 11.7 Catch-up or Review | ----- |
| May 6 | EXAM 5 (Monday, May 6, Ch.12.1, 15, 7, 11.2 & 11.7) Final Exam (Friday, May10, 8:00-10:00am) | Exam 5 Final Exam | ----- |