



PENSACOLA STATE COLLEGE

SYLLABUS

Principles of Biology

BSC1010-P1281

Spring 2026, Session A

Instructor: Dr. Iris Knoebl

Office: Pensacola Campus, Building 17, Room 1758

Phone: (850)484-1165

Email: iknoebl@pensacolastate.edu

Office Hours: TBA

Department Head: Dr. Vasanth Ramachandran

Department Head Office: 1760-A

Department Head Phone: (850)484-1106

Department Head Email: vramachandran@pensacolastate.edu

Last Date of Drop/Add: January 15, 2026

Last Date for Student to Withdraw: April 6, 2026

Final Exam Date: TBD

Class Meeting Time: Monday, Wednesday | 11:00 AM - 12:15 PM

Class Location: Pensacola Campus, Building 17, Room 1710

Prerequisites: Placement at the college level or completion of the appropriate exit-level developmental course(s) with a grade of C or better.

Course Description: In this course students will apply the scientific method to critically examine and explain the natural world. This course will cover molecular biology, cellular biology, genetics, metabolism, and replication.

Credit Hours: 3 credit hours

Semesters Offered: Fall, Spring

Course Designations: **College Transfer.** Meets AA General Education Core, Natural Sciences (Physical Sciences) requirement.

General Education Core Course Standard: Per Florida Statute 1007.25, "Natural science courses must afford students the ability to critically examine and evaluate the principles of the scientific method, model construction, and use the scientific method to explain natural experiences and phenomena."

Required Textbooks and Instructional Materials: *Biology w/ Connect Access* (PSC custom); Raven, Peter, et al.; 9781265251185; McGraw Hill; 13th edition; 2025

The educational materials used in this course, including textbooks and ancillary materials, are intended for educational purposes only. All opinions represent those of the author(s) and not necessarily those of Pensacola State College, or the instructor.

Course Learning Outcomes:

1. Understand the scientific method and hypothesis testing.
2. Evaluate the molecular structure of water and its importance as a biological molecule.
3. Describe the molecular structure of biological molecules (proteins, fats, carbohydrates and nucleic acids) and their role in biological systems.
4. Appreciate the structure of the cell and the functions of organelles.

5. Understand the structure of nucleic acids and the processes of replication, transcription and translation.
6. Identify cellular metabolism, enzyme function, cellular respiration, and photosynthesis.
7. Explain diffusion, osmosis, and cell membrane function, including protein channels and carriers.
8. Describe the cell cycle and cell cycle control.
9. Become familiar with simple and complex inheritance patterns.
10. Understand the genetic variation produced by meiosis and sexual life cycles.
11. Appreciate the regulation of gene expression.
12. Explain cellular communication and signal transduction.

General Education Student Learning Outcomes: (if applicable)

1. **Critical Thinking:** The student analyzes, evaluates, and, if necessary, challenges the validity of ideas, principles, or data in order to develop informed opinions, probable predictions, or defensible conclusions.
2. **Scientific and Mathematical Literacy:** The student properly identifies and applies scientific or mathematical principles and methods.
3. **Information Literacy:** The student effectively locates, evaluates, and applies information from a variety of sources.

Methods of Evaluation: At minimum, the instructor will cover content which aligns with statewide and institutional learning outcomes for the course. The instructor will measure student performance using the following:

Exams: Five exams will be given, including the final exam. The final exam will be comprehensive. Each exam is worth 100 points.

Assignments/Quizzes: There will also be 15 Connect SmartBook reading assignments (10 points each) with questions for each chapter. Homework assignments in Connect will be available for study purposes but will not be graded. All Smartbook and homework assignments will be done through the McGraw Hill Connect tab in eLearning/Canvas. I may also occasionally assign in-class discussions and end of class quizzes. These end-of-class quizzes will count for points, so please be sure to take notes during class.

Exams -- 500 points

Smartbook assignments -- 150 points

Other quizzes and assignments -- to be determined.

Grading Criteria: Final grades are determined by averaging all test scores, quizzes and homework assignments. The grading scale (in percentage points) is as follows:

100 - 90	A	77 - 70	C
89 - 88	B+	69 - 68	D+
87 - 80	B	67 -60	D
79 -78	C+	59 and below	F

Instructor Requirements:

Required Reading:

Biology w/ Connect Access (PSC custom)

Chapter 1: The Science of Biology

Chapter 2: The Nature Molecules and the Properties of Water

Chapter 3: The Chemical Building Blocks of Life

Chapter 4: Cell Structure

Chapter 5: Membranes

Chapter 6: Energy and Metabolism

Chapter 7: How Cells Harvest Energy

Chapter 8: Photosynthesis

Chapter 9: Cell Communication

Chapter 10: How Cells Divide

Chapter 11: Sexual Reproduction and Meiosis

Chapter 12: Patterns of Inheritance

Chapter 13: The Chromosomal Basis of Inheritance, and Human Genetics

Chapter 14: DNA: The Genetic Material

Chapter 15: Genes and How They Work

Student Expectations: Students enrolled in this course can expect the following:

1. Clearly identified course objectives;
2. Productive class meetings;
3. A positive learning environment;
4. Opportunities for appropriate student participation;
5. Effective instruction;
6. Positive and appropriate interactions;
7. Assistance with meeting course objectives during and beyond class hours;
8. Evaluation of student performance and appropriate and timely feedback; and
9. Clear and well-organized instruction.

Academic Dishonesty Statement: Pensacola State College is committed to upholding the highest standards of academic conduct. All forms of academic dishonesty, to include plagiarism and cheating, are prohibited. Penalties for academic dishonesty include but are not limited to one or more of the following: the awarding of no credit on the assignment, a reduction in the course grade, or the assignment of a final course grade of F and removal from the course. See the College Catalog for more details: [Academic Integrity](#)

ADA Statement: Students with a disability that falls under the Americans with Disability Act Amendments Act of 2008 or Section 504 of the Rehabilitation Act should contact the Student Resource Center for ADA Services to discuss academic accommodations. Appropriate academic accommodations are determined on an individual basis with careful consideration of the course learning outcomes and the documentation of the disability. For more information, students should visit the Student Resource Center for ADA Services on the Pensacola campus in building 6, room 603; call 850-484-1637; email ADAServices@pensacolastate.edu; or complete the online intake form in the ADA Services app within the MyPSC apps dashboard.

Emergency Statement: In the case of severe weather or other emergency, the College administration maintains communication with appropriate state and local agencies and makes a determination regarding the cancellation of classes. Notices of cancellation will be made through the College's PSC Alert system and on the College's website.

Flexibility Statement: It is the intention of the instructor to accomplish the objectives specified in the course syllabus. However, circumstances may arise which prohibit the fulfilling of this endeavor. Therefore, this syllabus is subject to change. When possible, students will be notified of any change in advance of its occurrence.

Non-Discrimination Statement: Pensacola State College does not discriminate against any person on the basis of race, color, national origin, sex, disability, age, ethnicity, religion, marital status, pregnancy, sexual orientation, gender identity or genetic information in its programs, activities, and employment. For inquiries regarding the College's nondiscrimination policies, contact the Executive Director of Equal Opportunity Compliance, 1000 College Blvd., Building 5, Pensacola, Florida 32504, 850.484.1759.

Security Statement: Pensacola State College is committed to encouraging all members of the College community to be proactive in personal safety measures. In case of emergency, students should ensure that they are aware of the building exit closest to each of their classrooms, as well as all alternative building exits in case circumstances require using a different route.

Student Email Accounts: Pensacola State College provides an institutional email account to all students enrolled in courses for credit. PirateMail is the official method of communication, and students must use PirateMail when communicating with the College. In cases where companion software is used for a particular class, email may be exchanged between instructor and student using the companion software.

he College's website.