



## Course Syllabus

### **BIOL1409 --- General Biology II**

**Catalog Description:** This course will provide a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology. Laboratory activities will reinforce the study of these concepts. (Lecture + Lab) (Lab Fee) (26.0101.51 03)

**Semester Credit Hours: 4**

**Lecture Hours per Week: 3**

**Lab Hours per Week: 3**

**Contact Hours per Semester: 96**

**State Approval Code:**26.0101.51 03

**Alternate Operations During Campus Closure:** In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Panola College to move to altered operations. During this time, Panola College may opt to continue delivery of instruction through methods that include, but are not limited to: online learning management system (CANVAS), online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor Panola College's website ([www.panola.edu](http://www.panola.edu)) for instructions about continuing courses remotely, CANVAS for each class for course-specific communication, and Panola College email for important general information.

#### **Core Components and Related College Student Learning Outcomes**

This course counts as part of the academic requirements of the Panola College Core Curriculum and an Associate of Arts or Associate of Science degree.  Yes  No: If no, skip to Instructional Goals.

The items below marked with an X reflect the state-mandated outcomes for this course **IF this is a CORE course:**

- Critical Thinking Skills – to include creative thinking, innovation, inquiry and analysis, evaluation and syntheses of information
  - CT1: Generate and communicate ideas by combining, changing, or reapplying existing information
  - CT2: Gather and assess information relevant to a question
  - CT3: Analyze, evaluate, and synthesize information
- Communication Skills – to include effective development, interpretation, and expression of ideas through written, oral, and visual communication
  - CS1: Develop, interpret, and express ideas through written communication
  - CS2: Develop, interpret, and express ideas through oral communication
  - CS3: Develop, interpret, and express ideas through visual communication
- Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
  - EQS1: Manipulate and analyze numerical data and arrive at an informed conclusion
  - EQS2: Manipulate and analyze observable facts and arrive at an informed conclusion
- Teamwork – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
  - TW1: Integrate different viewpoints as a member of a team
  - TW2: Work with others to support and accomplish a shared goal
- Personal Responsibility – to include the ability to connect choices, actions, and consequences to ethical decision-making

- PR1: Evaluate choices and actions and relate consequences to decision-making
- Social Responsibility – to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities
  - SR1: Demonstrate intercultural competence
  - SR2: Identify civic responsibility
  - SR3: Engage in regional, national, and global communities

### **Instructional Goals and Purposes:**

The purposes of this course are to... to provide instruction in an atmosphere of mutual respect where students may develop their intellect and skills; to contribute to the development of students as responsible and informed members of society; to provide courses for students wishing to complete certificate programs, associate degree programs or wishing to transfer to a baccalaureate program.

### **General Course Objectives:**

1. To help students become better informed citizens by providing opportunities to learn the differences between science as a way of knowing and other disciplines such as art, philosophy and religion
2. To provide students an opportunity to understand and appreciate the complexity and relationships of living systems.
3. To help students become better informed regarding their own health and better informed as health services consumers by coming to a better understanding of the complexities of the human body
4. To make students aware of changing technologies in science and the responsibilities and ethical decisions that come with the use of various technologies.
5. To help students become better informed regarding environmental issues.
6. Gather and assess information relevant to a question.
7. Analyze, evaluate, and synthesize information.
8. Develop, interpret, and express ideas through written communication.
9. Manipulate and analyze observable facts and arrive at an informed conclusion.
10. Integrate different viewpoints as a member of a laboratory team.
11. Work with others to accomplish a shared goal.

### **Learning Outcomes for lecture portion: (from ACGM)**

After successfully studying all materials and resources presented in the course, the student will be able to:

1. Describe modern evolutionary synthesis, natural selection, population genetics, micro- and macroevolution, and speciation.
2. Describe phylogenetic relationships and classification schemes.
3. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
4. Describe basic animal physiology and homeostasis as maintained by organ systems.
5. Compare different sexual and asexual life cycles noting their adaptive advantages.
6. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

### **Learning Outcomes for lab portion: (from ACGM)**

After successfully studying all materials and resources presented in the course, the student will be able to:

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. Define modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
5. Describe phylogenetic relationships and classification schemes.
6. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
7. Describe basic animal physiology and homeostasis as maintained by organ systems.
8. Compare different sexual and asexual life cycles noting their adaptive advantages.
9. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

### **Course Content:**

A general description of lecture/discussion topics included in this course are listed in the Learning Objectives section of this syllabus. Students in all sections of this course will learn the following content: Course content (see course description) will be taken from the adopted text and lab manual, scientific journals, current popular periodicals, appropriate online sources and pertinent reference literature.

### **Methods of Instruction/Course Format/Delivery:**

This course is offered in a face-to-face format and online format which both require frequent use of online resources. Both the lecture and lab portions of this course may include but not be limited to presentations by the instructor, videos, presentations by students, class discussions. The lab portion of the class will be heavily hands-on with students expected to work individually and in teams. The lecture portion of the course may also include some "hands-on" active learning type activities. Some activities will demand that students come prepared to initiate and follow through on the activity independently with the instructor available for guidance and to answer questions. Students will also be expected to complete virtual labs on some of the topics covered.

### **Major Assignments/Assessments:**

The following items will be assigned and assessed during the semester and used to calculate the student's final grade.

#### **Assignments**

1. The lecture portion may include submitted assignments, observations of student work, face-to-face and online testing including multiple choice, fill-in-the-blank, short answer and short essay questions as well as short reports. Some activities may come from the required texts and online support as well as other ancillary online resources.

2. The lab portion may include but not be limited to objective and essay type items in lab reports, the gathering, presenting and analysis of data, the creation of experiments, presentations by students. The lab portion may also include observations of student work, face-to-face or online, written and/or oral quizzes, face-to-face or online, graded exercises and/or reports. Some of these activities may come from required texts and virtual labs.

#### **Assessment(s):**

1. Lecture: Quizzes, Unit Test, Observations
2. Lab: Observations of lab activities, lab reports, lab quizzes

#### **Course Grade:**

The grading scale for this course is as follows:  
40% from average of Unit Exams (5 or 6 exams)  
20% from assignments  
20% from the Laboratory Average  
20% from the Final Exam (comprehensive over all but the last unit)

#### **Required Texts, Materials, and Supplies:**

- Text: Campbell Biology Concepts and Connections 9<sup>th</sup> Edition; Martha R. Taylor; et al; 2018; Pearson (E-Text available only, comes with Modified Mastering Biology in Panola Store) ISBN# 9780134641683
- Lab Manual: Exploring Biology in the Laboratory Core Concepts, 2e; Pendarvis & Crawley; 2018; Morton Publishing (Lab book only required for face to face labs) ISBN# 978-161731-9006
- Lab Kit: (For online lab only) Purchased only through Panola Store.

#### **Required supplements:**

- Access Code to MasteringBiology
- Access Khan Academy (free)
- Access to Howard Hughes Medical Institute BioInteractive and other ancillaries (free)
- Access to other free online resources as necessary

#### **Required Readings:**

- May include but not be limited to news publications, professional journals, agency publications.

**Recommended Readings:**

- May include but not be limited to news publications, professional journals, agency publications.

**Other:**

- Link to official Biology Department Syllabus <http://panola.edu/syllabi/>
- For current texts and materials, use the following link to access bookstore listings: <http://www.panolacollegestore.com>
- For testing services, use the following link: <http://www.panola.edu/elearning/testing.html>
- If any student in this class has special classroom or testing needs because of a physical learning or emotional condition, please contact the ADA Student Coordinator in Support Services located in the Administration Building or go to <http://www.panola.edu/student-success/disability-support-services/> for more information.
- Withdrawing from a course is the student's responsibility. Students who do not attend class and who do not withdraw will receive the grade earned for the course.
- Student Handbook, *The Pathfinder*: <http://www.panola.edu/student-success/documents/pathfinder.pdf>
- Courses conducted via video conferencing may be recorded and shared for instructional purposes by the instructor.