

## 2021 Advanced Placement® Biology

### About the AP® Biology Summer Institute

This APSI will be virtual this year and open to new and experienced AP Biology teachers. Our time will be split between synchronous and asynchronous instruction. We will examine how to use the resources and requirements from the College Board which include the Course and Exam Description, the Workshop handbook, the Lab Manual, AP Classroom, Instructional Planning Report, and how to join AP Biology Facebook Group.

In addition, we will analyze the AP Exam and the Science Practices and Skills that are part of the AP Exam, the Command terms, and the FRQ formatting. We will review the 2021 FRQs and suggestions from the 2021 AP Reading. We will analyze the writing skills that students need to develop in order to successfully respond to Free Response Questions.

We will examine several inquiry AP Labs which may include MiniOne: Gel Electrophoresis, MiniPCR: qPCR and BioBites, Enzyme Yeast Sphere Lab, Cell Communication Taste lab, online lab Resources, and College Board Requirements for lab instruction.

We will share strategies and pedagogical tools by Unit of study. These include Case Studies, Statistical Analysis, Simpson's Diversity Index, Flipgrid, Padlet, Ed Puzzle, Nearpod, Poll Everywhere and Pear Deck.

### Course Objectives

- Explore each section of the course and exam description, including the unit guides, while making connections to the course curricular requirements
- Begin to develop a course plan by unit and topic that incorporates the full scope of your AP course into your school's academic calendar
- Examine formative and summative assessment items to identify content and skill pairings that are the targets of these assessments and create lesson plans to reinforce content and skill connections
- Practice applying the scoring guidelines from the most recent AP Exam to samples of student work
- Identify student strengths and weakness using data available through AP Classroom and Instructional Planning Reports
- Explore ready-to-use strategies, instructional materials, and pedagogical tools pertinent to the content and skills required for success in your AP course
- Develop meaningful connections within the AP community

### Tentative Agenda

#### Day 1

Examine the Course and Exam Description

Apply Science Practices to the AP Biology Course

Outline the Instructional Plan by Unit and Topic in an academic calendar

Strategies and Pedagogical Tools for Unit 1 Chemistry and Unit 2 Cell Structure and Function

Lab Demonstration

#### Day 2

Examine the AP classroom resources

Strategies and Pedagogical Tools for Unit 3 Cellular Energetics

Lab Demonstration

### **Day 3**

Practice interpreting data within the Instructional Planning Report to identify student strengths and weaknesses and reflect on implications for instruction

Strategies and Pedagogical Tools for Unit 4 Cell Communication and Cell Cycle and Unit 5 Heredity  
Lab Demonstration

### **Day 4**

Review FRQs from 2021 and strategies for student skill development

AP Exam Format

Strategies and Pedagogical Tools for Unit 6 Gene Expression and Regulation  
Lab Demonstration

### **Day 5**

Course Audit Procedures

Enrollment in AP Biology support communities

Strategies and Pedagogical Tools for Unit 7 Natural Selection and Unit 8 Ecology  
Lab Demonstration

Time will be allotted daily for individual course planning.

### **What to bring:**

Items you should have access to during the week include:

- A laptop computer/ tablet
- Stable and reliable internet connection
- A favorite lesson or practice to share
- A copy of your school's academic calendar
- A copy of the textbook you will be using next year (if you have access to one)

### **Instructor:**

**Denise M. Green** has enjoyed teaching at Godwin High School in Henrico, Virginia for the last 26 years. She recently retired from teaching AP Biology and Honors Biology for Godwin. Her Education includes a BS in Education from the University of Virginia and a MS in Biology from the University of Richmond. Graduate research included *The Effects of 2,4-Dichlorophenoxyacetic acid on Nitrogen Fixing Bacteria*.

Denise is an AP Reader, Table Leader and Early Reader for the College Board. She has served as an Outside Item Writer for ETS, NMSI mentor and trainer, and a LTF Trainer. She helped develop Project CREEST for the Virginia Commonwealth University. Traveling is one of her passions. She has escorted students to Dominica to conduct research with scientists associated with Project Wallacea in order to establish a diversity baseline for this beautiful island.

