

Hawai'i APSI 2024 Agenda



Date: 15-18 July, 2024
Time: 8:00 am-4:00 pm
Damien Memorial School

Theme:

New Location, New Experience and a New Sense of Aloha!
(The Aloha Spirit – compassion and kindness to all with whom we cross paths in our everyday lives).

Course Description:

During this AP® Biology APSI, you'll explore the course framework, the exam, and the new AP® resources that will help you plan and focus instruction—and give you feedback throughout the year on the areas where individual students need additional focus. You'll also learn about completing the digital activation process at the start of the school year that will give you immediate access to the new resources and will help ensure that your students can register for AP® Exams by the new fall deadlines. By attending this APSI, you'll gain deeper insight into the following key takeaways, among several others: Understand the Course; Plan the Course; Teach the Course; Assess Student Progress; and Engage as a Member of the AP® Community. In addition, specific attention will be paid to the following AP® Classroom resources: unit guides, personal progress checks, AP® teacher community, and the AP® question bank.

The following are some of the goals for the week:

- Participants in the AP® Biology Summer Institute will increase their knowledge of the AP® Biology Course and Exam Description
- We will perform most of the labs in the lab manual, do some alternatives that I use in my own classroom, and discuss how to tweak labs you currently use to make them student driven and inquiry based
- Since many schools have limited budgets, we will learn effective and inexpensive labs and supplemental activities to maximize student learning, even on the lowest of budgets
- In addition, we will spend time familiarizing ourselves with the format, sample questions and grading of the exam
- Time will also be provided to work on your course syllabus and lesson planning

Expected outcomes for the 4-days:

- Participants will understand the structure of the AP® Biology exam and have strategies to
- help their students maximize their scores
- Participants will understand the objectives of each of the eight units in the course and have at least two learning activities per unit corresponding to those objectives
- Participants will be more confident in implementing labs in their classroom to support the course objectives
- Participants will complete a rough draft of their calendar for the course, and have a completed plan for the first unit

What should participants bring to the workshop?

- Laptop with wifi capabilities
- Calculator with a square root key
- Their school's 2024-2025 calendar
- A willingness to learn and take their class to the next level!

Agenda for Day 1

This schedule may change in accordance with the participant needs as determined during the first day of the workshop

Day 1

Day 1 – Let's get started!

Welcome and Introductions/Lab Safety/Logistics

- Resources in front of you

What should I be teaching? How much detail? Understanding the AP® Biology Course

The Course and Exam Description (CED)

- Science Practices (p13-15) and Big Ideas (p20)
- Course at a Glance (p22)
- Unit Guide "openers" (p26-28)
- Label unit 1 opener w/BI, EQ, Exam Weighting and Pacing, Developing Understanding "Road Map," SP, Preparing for the AP® Exam "Tips and Common Misconceptions"
- Treasure Hunt of CED

Using your school calendar for 2024-2024, map out the end dates of each of the eight units.

How will students be assessed?

- The AP® Bio Exam – (p193-199)

Units 1 and 2 "deep dive" – **Chemistry of Life; Cell Structure and Function**

LABS

How many drops of water on a penny (using this to teach SEMs and 95% Cis)

Set up whole plant transpiration lab

HW: choose one activity you would use to teach a topic in Unit 1 or Unit 2 (start by looking at sample instructional activities in the CED for some suggestions, also look at Mary's website for ideas – wuerthapbiology.weebly.com) and identify the topic, big idea, science practice. What is an instructional approach you could use to improve/supplement this activity?

Agenda for Days 2-3

Day 2

– Digging Deeper...

Any questions??

Equity and Access to AP® – Strategies and Tools

- Broadening Access to AP Toolkit

The AP® Classroom – Using the Personal Progress Checks and the AP® Question Bank to help learning (and save you time!)

The AP® “Audit” and writing your syllabus

Time to work on planning out Unit 1

Units 3 and 4 – **Cellular Energetics, Cell Communication and Cell Cycle**

LABS

- Start pGLO lab, revisit each day in context of science practices (Special Virtual Guest: Damon Tighe, Curriculum Specialist from BioRad will share his time and money saving tricks and tips!)

Hardy-Weinberg Lab

BLAST lab

Diffusion and Osmosis

Pam Bryer’s Taste Lab/ Gymnema Tea

Additional Cell Communication Resources

- Quorum Sensing TED talk by Dr. Bonnie Bassler
- Science Takeout Cell Communication Activity
- Nerve Cell Communication from the Life Sciences Learning Center
- Alternate Lab: Algae Bead Lab (learn how to make your own for a fraction of the price)

HW: choose one activity you would use to teach a topic in Unit 3 or Unit 4 and identify the topic, big idea, science practice. What is an instructional approach you could use to improve/supplement this activity?

Day 3

– Almost there!

Any questions?

Units 5 and 6 -**Heredity and Gene Expression**

LABS

Finish pGLO

Gel Electrophoresis (Special Virtual Guest: Erika Fong from MiniOne will help us run their PTC Genetics Electrophoresis lab and demo MiniOne’s transformation lab)

Enzymes

Additional Heredity and Gene Expression Resources

- pHet Operon Online
- Chi-Square and M&Ms, the null hypothesis revisited
- HHMI Natural Selection in Humans: Sickle Cell and Malaria
- HHMI Stickleback Gene Control

Finishing up your unit 1 plan

HW: choose one activity you would use to teach a topic in Unit 5 or Unit 6 and identify the topic, big idea, science practice. What is an instructional approach you could use to improve/supplement this activity.

Agenda for Day 4

Day 4

– ***Congratulations, Unit 1 is done!***

Any questions?

Big Idea 4: Interactions

Using the Instructional Planning Report

How to write exam questions

Units 7 and 8 – **Natural Selection** and **Ecology**

LABS

Photosynthesis

Cellular Respiration

Additional Evolution Resources

- HHMI Rock Pocket Mouse
- HHMI Keystone Species
- HHMI CSI Wildlife

Time for reflection, sharing out our plans and gathering feedback

We will talk through tips for the following labs:

- Fast Plants
- Mitosis and Meiosis
- Animal Behavior
- Energy Dynamics

You can see what I do in my AP Bio classroom on a daily basis on wuerthapbiology.weebly.com

If you are looking for a supplemental review book for your AP® Biology classes, may I humbly suggest my book Barron's AP® Biology, available wherever books are sold.



Speaker
Mary Wuerth
AP® Biology Consultant