Course Description:
Designed to prepare high school biology teachers to teach AP Biology in their high schools, and provide participants with the tools to design and implement a successful AP program in their schools. The main focus of the institute will be the redesign of the course. We will conduct at least 2 labs a day, with a focus on guided inquiry. Whatever labs we do not complete, we will discuss.

Course Content/Organization:
Each day will be divided into morning and afternoon sessions. A portion of each session will be devoted to one of the 13 AP labs. We will discuss lab set-up, pre-lab objectives, lab procedure and implementation of labs within the participants’ schools. The remainder of each session will be devoted to course design, the AP exam, the curriculum framework, and the course audit.

Monday:
Morning session:
Introduce the workshop
Inquiry ice breaker
Discuss course organization and AP Exam
Unpack the Big Ideas
Investigation 11: Whole plant transpiration and stomatal counting
Extra investigation: Brine Shrimp Hatch Out Rate
Investigation 7 Cell Division Mitosis and Meiosis set up lab

Afternoon session:
Unpack Science Practices
Investigation 8: Bacterial transformation
Homework: Read Investigation 2: Hardy Weinberg and Mathematical Modeling. Read this lab and use an excel spreadsheet to build the model. Bring a laptop or flash drive of your work to class tomorrow. Answer free response questions from this year's AP Exam.

Tuesday:
Morning session:
Take Transpiration Data
Take Brine Shrimp Data
Investigation 13; Enzyme Lab
Investigation 10 Energy Dynamics - set up lab

Investigation 2; Hardy Weinberg and Mathematical Modeling
Afternoon session:
Unpack Illustrative Examples and Exclusionary statements
Illustrative Example Activity

**Take Data from Investigation 8 Bacterial transformation.**
Explain results, and provide further investigation
**Investigation 9: DNA Forensics/Who's the Daddy?**

**Homework:** Take the multiple choice practice test. Try to time yourselves and see if you can complete all questions (inducing grid in) in 90 minutes.

**Wednesday:**
Morning session:
Take Transpiration Data
Take Brine Shrimp Data
Discuss Equity and Access
**Investigation 4: Osmosis and Diffusion**
**Investigation 6: Cellular Respiration**
Review The exam

Afternoon session:
**Investigation 5 Photosynthesis**
pGLO extension 1 take data
pGLO extension 2 investigation

m&m Chi Square: *When should students use chi square analysis?*
*FRQ grading practice.*

**Homework:** Complete Extension Activity 1 Plasmid Mapping and Extension Activity 2 Constructing a Plasmid. Complete Evolution of Lactase/Got Lactase Teacher and student handouts can be found at [this link](#). Complete PartA 1-5. Do not do Math Extension for part A. Complete part B. If you don't know how to do a t test (math extension) that is OK, but if you know how to do one, please do it. **DO NOT DO PART C.**

**Thursday:**
Morning session:
Take Transpiration Data
Take Brine Shrimp Data
Take Osmosis Data
Discuss Standard deviations and how to incorporate this into a graph.

Finish pGLO lab

Practice with FRQ plasmid.

**Investigation 3: BLAST**

**Afternoon session:**
- Take mitosis data
- Assessment and Exam Analysis

**Friday:**
- **Morning Session**
  - AP Audit
  - Sharing