

**2014 Ad Astra
Biology Advanced Placement Summer Institute
July 21-24, 2014**

Institute Overview

Welcome to the summer institute for AP Biology! I am looking forward to working with you and I hope that it will be a productive session for everyone. As you probably know, the AP Biology program changed in 2012-13 with a new Curriculum Framework, a new lab manual and a new exam format. We will spend a great deal of our time in the APSI going over the new Curriculum Framework and learn how to develop new materials or adapt your old materials to the new framework. We will also learn how to adapt your labs to Inquiry format and how to conduct most of the labs in the new lab manual. Alternative labs will also be demonstrated and suggested. The new exam will only have been given twice, but we will spend time discussing what was learned at the AP Biology Read about the exams and how to better prepare students. My experience with new curriculum and labs suggests “don’t panic”. It won’t be so much a matter of learning NEW things as doing many of the things you have done in the past a little differently. Bring copies of your best activities, lessons and labs to share and we’ll all benefit from each other’s experiences and knowledge. The APSI sessions are for all levels of experience, but we will do some break-out sessions for different experience levels.

Consultant Background

Jeff Smith, Ph.D.

I have B.S. and M.S. in Botany from Miami University (Ohio) and a Ph.D in Botany from the University of Oklahoma. I am an AP Biology teacher at the Indiana Academy for Science, Mathematics and Humanities with over 20 years of experience. I have had 400+ students take the national exam. I am a Midwest regional AP Biology consultant for College Board and have presented over 40 one day training sessions in last 19 years. I have been teaching summer AP Institutes sessions for 21 years, training between 300-400 teachers. I have been an AP exam reader since 1996 and a table leader or question leader for many years. I’ve also written some of the multiple choice questions for ETS for the new AP Biology exam. I’ll bring all of these experiences and expertise to our session to share with you. I can be reached at jsmith4@bsu.edu if you have questions about the APSI session.



Institute Goals

I plan on providing you with a copy of all of my present (and past) AP Biology course materials including PowerPoint lectures, chapter objectives outlines and homework assignments (and grading rubrics), exams, my versions of the labs, additional labs, handouts and a variety of other “goodies”. If possible, bring a laptop or other computing device with you so you can access these materials during the workshop and start working on rewriting your own.

Tentative Institute Syllabus and Outline

Monday Morning Session

- Introductions
- Collecting goals and needs for the workshop from participants
- Discussion: Overview of AP Biology, the course and the labs.
- Discussion: Equity of Access – College Boards expectations
- Presentation: The Curriculum Framework – the Four Big Ideas
- Activity: Introductory Lab, Pillbugs – Animal Behavior Lab (Inquiry format modeled)

Monday Afternoon Session

- Presentation: Inquiry Labs – an overview
- Presentation: Design an Experiment to... (The Seven Science Processes)
- Discussion: Role of labs in the new curriculum, lab notebooks etc.
- Activity: Set-up of whole plant transpiration experiment (Inquiry format)
- Activity : Set-up ecosystem energy lab (Inquiry format – Dissolved Oxygen method)
- Activity: Set-up Countdown to Genetics Lab
- Presentation: Using Understanding by Design (backwards design) to construct your course, course pacing comments etc.
- Overnight assignment – Look at the MC questions on the practice exam

Tuesday Morning Session

- Activity: pour Bacteria Plates for transformation lab.
- Activity: Enzyme Lab (Inquiry format and other lab options)
- Discussion: The new multiple choice exam – tips and sources for your own questions

Tuesday Afternoon Session

- Activity: Photosynthesis Lab (Floating Disks and DPIP methods)
- Activity: Review results from Dissolved Oxygen Lab
- Discussion: Teacher and Student lab manuals - what do you need?
- Discussion: Textbooks for AP Biology
- Overnight assignment – look at the essay questions on the practice exam

Wednesday Morning Session

- Activity: Bacteria Transformation Lab
- Activity: Respiration Lab (Inquiry method using macro and micro respirometers)
- Discussion: The new essay exams and how to teach essay writing
- Discussion: Web sites for AP Biology

Wednesday Afternoon Session

- Activity: Gel Electrophoresis Lab
- Activity: BLAST Lab, Bats aren't Bugs Lab
- Activity: Population Genetics Lab – computer simulation and other activities
- Presentation: The National AP Biology Exam – exam tips and strategies
- Presentation: Comments and Observations from the 2013 and 2014 AP Biology Read

Thursday Morning Session

- Discussion: Course Syllabi and Scheduling (AP Audit preparation tips)
- Discussion: Comments on the remaining labs in the new lab manual
- Discussion: Additional Labs for AP Biology (includes labs from the lab manual not covered with a hands-on activity)
- Discussion: Other materials in the AP Biology packet and CD/flash drive
- Web resources for AP Biology – Participants invited to share their favorite sites

Thursday Afternoon Session

- Activity: Wrap-up Bacteria Transformation Lab
- Activity: Wrap-up Countdown to Genetics Lab
- Activity: Wrap-up of Whole Plant Transpiration Lab
- Activity: Wrap-up of any other labs
- Presentation: where to we go from here?
- Activity: Review the initial goals for workshop and finish any loose ends
- Evaluations, Awarding of Certificates and Dismissal

Graduate Credit Option

Participants may also earn three graduate education hours for any of the AP Summer Institutes from Washburn University for a reduced tuition rate the successful completion of an academic assignment.

Additional Information

Timothy W. Peterson, Ph.D.
Dean of Academic Outreach
Washburn University
1700 College Avenue
Topeka, KS 66621
tim.peterson@washburn.edu
(785) 670-1399 voice
(785) 670-1028 fax