

2009 Syllabus for Biology

July 27 –31, 2009

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. My goal is to take you through a number of activities, labs, discussions and presentations that will help you develop a successful AP Biology course. We will have sessions on aspects of teaching AP Biology such as: what exactly is AP Biology, how to get started, student selection, teacher preparation, equipment and materials, tests and testing strategies, course syllabus, grading, and the AP Audit. We will also discuss the upcoming redesign of AP Biology. My goal is to equip the new teacher with information to start an AP Biology program and the veteran teacher to polish their skills. We will be prepared to conduct all 12 required labs using both "traditional" and computer interface methods. I will also have "alternate" lab activities for many of the required labs. I hope that the program will give you multiple sources of information, allowing you to choose which materials will be the most appropriate for your particular teaching situation. There isn't just one way to have a successful AP Biology program!

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 17 years of experience. I have had 400+ students take the national exam. I am a Midwest area AP Biology consultant for College Board and have presented over 30 one day training sessions in last 14 years. I have been teaching summer AP Institutes sessions in Indiana for 16 years training between 250-300 teachers. I have been an AP exam reader for 14 years and a table leader for 8 years. Most recently, I have been trained to conduct the College Board sessions on Vertical Teaming in Science. I'll bring all of these experiences and expertise to our session to share with you.



Institute Preparation

I plan on providing you with a CD of all of my AP Biology course materials including PowerPoint lectures, chapter objectives outlines and homework assignments, my versions of the required labs, additional labs, sample lab data (for emergency backup), handouts and a variety of other "goodies". If possible, bring a laptop with a CD drive so you can access these materials during the workshop. Veteran teachers are welcomed and encouraged to bring lessons and materials to share. We can all benefit through hearing how each other teaches AP Biology.

Institute Syllabus

Monday Morning Session

- Introductions and goal setting for week
- Collecting goals and needs for the workshop from participants
- Discussion: Overview of AP Biology – Role of Essential Questions

- Discussion: Course Syllabi and Scheduling

Monday Afternoon Session

- Activity: Introductory Lab, Pillbugs – Animal Behavior Lab
- Activity: Computer interfacing with pH probes
- Activity: Set-up of Aquatic Primary Productivity Lab
- Activity: Set-up of Transpiration Lab

Tuesday Morning Session

- Activity: Enzyme Catalysis Lab with colorimeters
- Demonstration: Alternate Enzyme Lab Activities
- Demonstration: Set-up for Bacteria Transformation Lab

Tuesday Afternoon Session

- Activity: Plant Pigments and Photosynthesis Lab
- Discussion: Teacher and Student lab manuals
- Discussion: Textbooks

Wednesday Morning Session

- Activity: Cell Respiration Lab
- Activity: Gel Electrophoresis Lab
- Demonstration: Circulatory Lab

Wednesday Afternoon Session

- Activity: Bacteria Transformation Lab
- Activity: Genetics of Organisms Lab
- Demonstration: Mitosis and Meiosis Lab
- Discussion: Web sites for AP Biology

Thursday Morning Session

- Activity: Wrap-up Bacteria Transformation
- Activity: Wrap-up Gel Electrophoresis Lab
- Activity or Demonstration: Diffusion and Osmosis Lab
- Discussion: the coming redesign of AP Biology

Thursday Afternoon Session

- Discussion: The National AP Biology Exam – exam tips and strategies
- Discussion: Additional Labs for AP Biology
- Discussion: Other materials in the AP Biology packet or topics of choice

Friday Morning Session

- Activity: Population Genetics and Evolution
- Activity: Animal Behavior Lab
- Activity: Wrap-up of Transpiration Lab
- Activity: Wrap-up Aquatic Primary Productivity Lab
- Activity: Review the initial goals for workshop and finish any loose ends

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 and the successful completion of an academic assignment.

Additional Information

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