2019 Advanced Placement® Biology

About the AP® Biology Summer Institute
Whether a teacher is just beginning to teach an AP Biology course or has taught the course for years, there will be something for everyone at this Advanced Placement Summer Institute in 2019.

This comprehensive institute will provide information and experiences on how to teach both the classroom and laboratory components of an AP Biology course. Activities to support an understanding of the structure and design of the AP Biology Curriculum Framework will be a major part of this summer institute. There will be instruction on how to prepare or modify an Audit based on the curriculum framework. Teachers will be introduced to the laboratory investigations that are in the AP Biology Student Laboratory Investigations Manual. In addition, activities and strategies to support inquiry-based instruction will be presented along with how to incorporate these inquiry activities into the coursework. Participants will learn how to organize the course in order to have time to present the material to the students as well as to conduct the laboratory investigations.

Also the specifics of the AP Biology Exam and the importance of the Exam’s grading process will be presented. A review and discussion of the standards (rubrics) for the Free-Response Questions from the 2019 Exam will also be included. Teachers will learn methods to better prepare their students when they write answers to the Free Response Questions of the AP Exam.

- Included:
  - College Board Workshop Handbook
  - Notebook full of consultant-generated handouts and activities
  - Sample Textbooks
  - Student Laboratory Investigation Manual
  - Teacher Laboratory Investigation CD
  - Biology Lab Materials
  - Technology Assignment Options
  - USB Drive
  - Breakfast, Lunch, and Snacks

- Emphasis:
  - The AP Biology Curriculum Framework
  - The AP Biology Inquiry-based Laboratory Investigations
  - The AP Biology Exam
  - Free-Response Question Grading and Analysis of the 2019 Exam
  - Incentive-based Learning Strategies
  - Sharing of Strategies to Help Students Grow Academically
  - Sharing of AP Biology Teaching Strategies and Activities
  - How to Review for the AP Biology Exam
  - Tips on Transitioning to the Curriculum Framework with its Inquiry-based, Critical-thinking, Problem-solving emphasis

** Investigative Labs to be conducted during this APSI
Sharing of Best Practices will occur throughout the week

** AP BIOLOGY SUMMER INSTITUTE 2019 – IT IS ALL ABOUT THAT SKILL
Consultant: Pat Mote, Georgia State University, Atlanta GA
Lab Coordinator: Lori Mack, School, City

Monday: THE CURRICULUM FRAMEWORK
  Introductions, Consultant’s Notebook, College Board Handbook, Textbooks
  Equity/Access and Diversity of Learners
  The Curriculum Framework: BI’s, EU’s, and EK’s

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Why are the LO’s and SP’s important?

Planning an AP Biology Course for the Year (Syllabus and AP Audit)
How much Anatomy & Physiology needs to be covered?
Lab Manual: AP Biology Investigative Labs: An Inquiry-Based Approach
Investigation 4: Diffusion and Osmosis ** BI 2
Investigation 11: Transpiration ** BI 4

Tuesday: WHAT’S THE BIG IDEA About the Investigative Labs?
Lab Notebooks, Lab Reports, Laboratory Equipment and Materials
Water Potential Calculations for Investigation 4** BI 2
Investigation 8: Bacterial Transformation ** BI 3
The AP Biology Exam and the 2018 FRQ’s
Investigation 5: Photosynthesis ** BI 2 and Other Activities Using Plants
Investigation 6: Cellular Respiration ** BI 2
Investigations 1: Artificial Selection BI 1 and 10: Energy Dynamics BI 4

Wednesday: LET’S WORK ON THOSE SKILLS
Investigation 9: Restriction Enzyme Analysis of DNA ** BI 3
Investigation 3: BLAST BI 1 (Are there alternatives?)
How to Write AP-Level Multiple -Choice Questions
Investigation 13: Enzyme Activity** BI 4
Investigation 7: Cell Division: Mitosis and Meiosis BI 3
Investigation 12: Fruit Fly Behavior ** BI 4

Thursday: MATHEMATICS and STATISTICS: Biology’s Next Microscope
Content Update Presentation - Guest Speaker
Mathematics and Statistics Examples from AP Exams 2014-2018
Calculating Transformation Efficiencies from Investigation 8 BI 3
Investigation 2: Mathematical Modeling: Hardy-Weinberg ** BI 1
Calculating Restriction Fragment Lengths for Investigation 9 BI
College Board Evaluations and APSI Certificates

*Course schedule is tentative and may be altered prior to APSI

What to bring:
Items you should bring during the week include:
  • a laptop computer or tablet (recommended – not required)
  • a copy of your school’s academic calendar
  • a current AP Biology syllabus
  • closed-toe shoes for laboratory work
  • goggles for laboratory work
  • highlighter(s)
  • an investigation you used, or one you would like to use, with your students beyond what is found in the AP Biology College Board Student Laboratory Investigations Manual or an assessment that allowed you the opportunity to measure one of the Learning Objectives from the Curriculum Framework.
  • comfortable clothes and shoes for walking in the summer heat
  • a light sweatshirt or sweater in case you get chilly in the AC

Instructors:

Patricia Mote taught biology at the high school level for over thirty years serving as department chair for many of these years. She has been an instructor and lecturer at the college level for 27 years. She holds degrees in Microbiology, Genetics, and Science

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Education from the University of Georgia. While serving as a consultant for the College Board since 1989, she has conducted one-day workshops and summer institutes at various schools and universities all over the country. She has been involved with the AP Reading to score the free response questions from the AP Biology Exam since 1992, serving as reader, table leader, question leader, and exam leader. She writes multiple-choice, grid-in, and free-response questions based on the curriculum framework for the AP Biology Exams. She currently serves as the chair of CLEP (the College-Level Examination Program) for the Educational Testing Service.

During her career as a high school teacher she received numerous awards including being named high school Teacher of the Year several times and Teacher of the Year for her school district. In the 1990’s she was named the Georgia Biology Teacher of the Year and a Tandy Technology Scholar. In 2003, she received the Siemens Award in Biology for her work with minority students in the AP program at her school. Her students have also selected her as their STAR Teacher numerous times.

She has written and edited various Teacher’s Guides and has developed Test Banks for Human Anatomy and Physiology textbooks and for several AP Biology textbooks. She has had items published in The College Board’s Materials for Professional Workshops. She serves as an editor for articles for The American Biology Teacher. She has edited numerous editions of Human Anatomy and Physiology textbooks. Other publications include articles for several microbiology journals from research conducted at the Centers for Disease Control in Atlanta and three instructors’ guides for AP Biology. During the summer months for 17 years, she taught a summer molecular biology program at the Georgia Institute of Technology in Atlanta.

Patricia resides in Atlanta and is currently a lecturer and lab instructor for Human Anatomy and Physiology, Majors Biology, and Non-majors Biology courses at Georgia State University – Perimeter College on the Dunwoody Campus.

Lori Mack graduated from Virginia Tech with a Secondary Biology (Natural Sciences) teaching degree and has taught science for 32 years. After her 16th year as a teacher, she moved from middle school sciences to high school Biology, Human Anatomy & Physiology, and Earth Science, and has 5 years experience teaching AP Biology. Lori has taught in the Charlottesville area public and private schools, at an Asheville, NC area high school, and at Chiang Mai International School in Thailand, which is where she spent much of her childhood. A passionate science-learner, Lori’s instructional methods have appeared in an Educational Leadership article and have garnered awards for Outstanding Teaching in Science and the Learning, Teaching, Caring awards. She lives in a pre-Civil War log cabin just outside Charlottesville, Virginia and currently teaches several sciences at an alternative program with the Albemarle County Public Schools. She is the mother to two sons, one who lives in Asheville and one in Charlottesville. She is thrilled to be a part of the APSI at UGA as support for Pat Mote’s outstanding program for AP Biology teachers.