

Dear Student and Parent,

I am looking forward to having you in my Advanced Placement Biology class during the 2018/2019 school year. To work together toward your success, I want to make you are aware of the degree of dedication and commitment this course requires.

The student that is most successful in AP Biology is the student who is self-motivated and is willing to teach them self through reading the textbook and outside references. Due to the volume of material, we cannot cover all the information together in class. Our time together needs to focus on labs and discussion of the more difficult concepts. If students are not keeping up by teaching themselves the basics, they will not benefit from the instruction they receive in class. Good attendance is also critical. Students that are frequently absent or who repeatedly miss class for activities or sports will fall behind quickly. Please note that I am available for extra help outside of class. Students are encouraged to come in for extra help at the first sign of a struggle, as the curriculum is extremely integrated and unified.

The AP exam date is scheduled by the College Board and cannot be changed. I plan our course schedule to ensure that students will finish the curriculum and be prepared to take the exam on exam day. Please understand that I cannot change our schedule because some students are falling behind. It is the student's responsibility to keep up with the schedule. Again, extra help is available, if necessary, to keep up.

All AP Biology students are committed to take a practice exam on a Saturday approximately one week before the College Board exam. Even though the 2019 AP Biology exam is scheduled for Monday, May 13, 2019, the practice exam will be given on Saturday, April 27, 2019 in order to accommodate seniors. This advanced notice should avoid any scheduling conflicts with personal matters.

Parents, please be aware that students frequently complain about the amount of work and the pace we need to maintain. In all fairness, also be aware, that I must teach the class at a college level because that is what the course is all about. Remember, students that successfully pass the AP Biology exam may receive, from many colleges and universities, credit for two semesters of introductory biology with lab. Students taking the exam will also receive an honor's point added to their grade point average.

Students and Parents, please have an in-depth discussion about the commitment involved in this course so that we can all have a successful year. I am praying that you have a challenging, yet stress-free year, and that you will never ceased to be amazed at God's incredible design as you learn more and more about the intricate details of life.

Sincerely,
Mrs. Cherri Carruthers

Student's signature

Parent's signature

date

The King's Academy
Mrs. Carruthers

AP BIOLOGY
SYLLABUS
DESCRIPTION OF DESIRED PERFORMANCE
LETTER OF INTENT
SUMMER READING AND ASSIGNMENTS

As you probably already know, success in an Advanced Placement course requires a huge commitment by you as a student. AP Biology is no exception, so before you begin your summer reading and assignments, I want to make sure that you are aware of the degree of dedication and commitment that this course requires.

Please read the course syllabus that begins on page 2 to get a feel for the course content, goals, and elements. The syllabus will also give you an idea about the kind of teaching and learning you can expect in the class.

If after reading the syllabus, you are still interested in taking AP Biology, print the letter of intent on page 6. Please read the letter and discuss it with your parent(s) or guardian before signing it. You will turn the signed letter in, along with your summer assignment, on the first day of school in August.

You can find the directions for your summer reading and assignment on page 7.

AP BIOLOGY

Summer Reading and Assignment

In preparation for a successful year in AP Biology, you will need to complete some work independently over the summer. When you begin school in August, we will only have a day or two, at the most, to discuss this material so be sure to take the reading and assignment seriously since you will be responsible for applying this information throughout the year. You should find that much of the material is a review of Chemistry.

Although you will be assigned a new textbook during the upcoming year, they will not be available for your use until you return after the summer, therefore, you will have to use the textbook we will be retiring to complete your summer reading and assignment. Fortunately, this textbook is available as an e-text and the work you will complete can be done online.

You will need to register for an online course called MasteringBiology®

- 1 Go to <http://www.pearson.com/mastering/biology>
- 2 Under Register Now, select Student.
- 3 You will be provided with all the information you need so select **OK! Register now.**
- 4 Enter the following Course ID, **MBCARRUTHERSAP1819** and choose **Continue.**
- 5 Enter your existing Pearson account **username** and **password** and select **Sign in.** You have an account if you have ever used a Pearson MyLab & Mastering product, such as MyLab Math, MyLab IT, or Mastering Chemistry.
 - If you don't have an account, select **Create** and complete the required fields.
- 6 Select an access option and enter the following access code:
SSNAST-SPADA-STEYR-DAYAN-MINOT-FAKES
- 7 From the "You're Done!" page, select **Go to My Courses.**
- 8 Select **Yes** and enter your Course ID to join your course. Click **Continue.**
- 9 That's it! You should see the Course Home page for the course.

To sign in later:

- 1 Go to <http://www.pearson.com/mastering/biology> and select **Sign In.**
- 2 Enter your Pearson account **username** and **password** from registration, and select **Sign In.**
- 3 If you forgot your username or password, select **Forgot your username or password?**

On the Course Home page of MasteringBiology, you will find a menu to the left where you can access the e-text and if you click on the 3 bars your 8 assignments should appear. You will need to complete the following assignment by the first day of school, August 16, 2018. If you would like to have a hard copy of the textbook, please come by my room, 107-02, and I can sign one out for you to use over the summer.

- 1 read Chapter 1 - Introduction: Themes in the Study of Life
 - complete the MasteringBiology assignment APBio1 Introduction: Themes in the Study of Life activities
 - complete the MasteringBiology assignment APBio1 Introduction: Themes in the Study of Life assessment
- 2 read Chapter 2 - The Chemical Context of Life
 - complete the MasteringBiology assignment APBio2 The Chemical Context of Life activities
 - complete the MasteringBiology assignment APBio2 The Chemical Context of Life assessment
- 3 read Chapter 3 - Water and Life
 - complete the MasteringBiology assignment APBio3 Water and Life activities
 - complete the MasteringBiology assignment APBio3 Water and Life assessment
- 4 read Chapter 4 - Carbon and the Molecular Diversity of Life
 - complete the MasteringBiology assignment APBio4 Carbon and the Molecular Diversity of Life activities
 - complete the MasteringBiology assignment APBio4 Carbon and the Molecular Diversity of Life assessment

Note that the due date for all the components of the assignment are the first day of school so be sure to submit all components by August 16, 2018 to receive credit. If you do not complete the summer work by the due date, you will be withdrawn from the course.

If you have any issues registering for MasteringBiology, questions regarding the assignment, or questions regarding the content that this assignment covers, contact me by email at C.Carruthers@tka.net. I will get back to you as soon as possible.

The King's Academy
AP Biology
Mrs. Carruthers

SYLLABUS

COURSE OVERVIEW:

This AP Biology course is designed to be the equivalent of a two-semester college introductory biology course usually taken by biology majors during their first year. The course covers those topics regularly covered in a college biology course for majors. The textbook used is equivalent to the kind of textbook used by college biology majors and the kinds of labs done are equivalent to those done by college students.

This course is designed to be taken by students after successful completion of a first course in high school biology and one in high school chemistry. It aims to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of biology.

The revised AP Biology course addresses the challenge of balancing breadth of content coverage with depth of understanding by shifting from a traditional "content coverage" model of instruction to one that focuses on enduring, conceptual understandings and the content that supports them. This approach will enable students to spend less time on factual recall and more time on inquiry-based learning of essential concepts, and will help them develop the reasoning skills necessary to engage in the science practices used throughout their study of AP Biology.

To foster this deeper level of learning, the breadth of content coverage in AP Biology is defined in a way that distinguishes content essential to support the enduring understandings from the many examples or applications that can overburden the course. Specific illustrative examples are provided that help students achieve deeper understanding.

Students who take an AP Biology course designed using this curriculum framework as its foundation, will also develop advanced inquiry and reasoning skills, such as designing a plan for collecting data, analyzing data, applying mathematical routines, and connecting concepts in and across domains. The result will be readiness for the study of advanced topics in subsequent college courses.

COURSE OBJECTIVES:

The key concepts and related content that define the revised AP Biology course and exam are organized around a few underlying principles called the big ideas, which encompass the core scientific principles, theories, and processes governing living organisms and biological systems. Each of the big ideas embody enduring understandings which are the core concepts that students should retain. Each enduring understanding includes the essential knowledge necessary to support it.

Science practices enable students to establish lines of evidence and use them to develop and refine testable explanations and predictions of natural phenomena. Because content, inquiry, and reasoning are equally important in AP Biology, competency in the science practices that follow the concept outline of this framework is expected of AP Biology students.

THE CONCEPT OUTLINE:

Big Idea 1: The process of evolution drives the diversity and unity of life.

Big Idea 2: Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis.

Big Idea 3: Living systems store, retrieve, transmit, and respond to information essential to life processes.

Big Idea 4: Biological systems interact, and these systems and their interactions possess complex properties.

SCIENCE PRACTICES OUTLINE:

Science Practice 1: The student can use representations and models to communicate scientific phenomena and solve scientific problems.

Science Practice 2: The student can use mathematics appropriately.

Science Practice 3: The student can engage in scientific questioning to extend thinking or to guide investigations within the context of the AP course.

Science Practice 4: The student can plan and implement data collection strategies appropriate to a particular scientific question.

Science Practice 5: The student can perform data analysis and evaluation of evidence.

Science Practice 6: The student can work with scientific explanations and theories.

Science Practice 7: The student is able to connect and relate knowledge across various scales, concepts, and representations in and across domains.

EXAM INFORMATION:

The AP Biology Exam consists of two sections: multiple choice and free response. The multiple choice section consists of 63 multiple choice questions and 6 numerical grid-in questions that require the integration of science and mathematical skills. The free response section consists of 2 multi-part questions, 1 of which connects to the lab experience, and 6 single-part questions. Both sections include questions that assess students' understanding of the big ideas, enduring understandings, essential knowledge, and the ways in which this understanding can be applied through the science practices. These may include questions on the following:

- the use of modeling to explain biological principles;
- the use of mathematical processes to explain concepts;
- the making of predictions and the justification of phenomena;
- the implementation of experimental design; and
- the manipulation and interpretation of data.

The exam is 3 hours long and includes both a 90-minute multiple choice and numerical grid-in section and a 90-minute free-response section that begins with a mandatory 10-minute reading period. The multiple-choice section accounts for half of the student's exam grade, and the free-response section accounts for the other half.

COURSE TEXTS:

Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky and Jane Reece. AP® Edition, *Campbell Biology in Focus*, 2nd edition (USA: Pearson Education Inc., 2017).

Fred W. Holtzclaw and Theresa Knapp Holtzclaw. *Pearson Education Test Prep Series for AP Biology* (USA: Pearson Education Inc., 2017).

The College Board. *AP® Biology Investigative Labs: An Inquiry- Based Approach* (USA: The College Board, 2012).

COURSE DESCRIPTION:

Organization:

A summer assignment sheet is provided before students leave school for the summer. This summer assignment consists of mandatory reading assignments and chapter tests which must be completed upon the start of the school year. It also consists of homework assignments for each chapter covered in the summer reading.

At the beginning of the school year a schedule for the course is provided. Weekly reading assignment, lab, test, and exam schedules are included. Students are responsible for keeping up with reading assignments and being prepared for class discussions, labs, tests and exams. Class will be a combination of lecture, coverage of discussion questions, laboratory work, and answering student questions. Periodically, additional homework assignments will be required.

Lab Component:

Students work either individually or in pairs to prepare and complete each hands-on lab. Students complete labs from the *AP Biology Investigative Labs: An Inquiry-Based Approach Lab Manual*. In addition to performing pre-designed labs, students are frequently required to design their own experiments and carry them out whenever possible. Pre-lab and post-lab discussions are an important aspect of the lab component. All labs are graded. Students complete tables and graphs, answer questions, and submit their lab manual for grading.

Classwork/Homework:

Homework for each chapter covered includes the following exercises:

- Mastering Biology assignments
 - activities (30 points)
 - self quiz (10 points)
 - practice test (10 points)

Mastering Biology assignments must be submitted by the due date (test date). All homework assignments are worth 50 daily points (see above for individual points for each exercise).

Tests

Chapter tests will be a combination of objective and short answer essay questions and will be given weekly, usually on Fridays, whenever possible. All chapter tests are worth 20 test points. After grading, all test questions are discussed for additional reinforcement of concepts and unification with the four big ideas and enduring understandings as described in the course objectives.

Comprehensive Unit Exams

At the end of each unit, students take a comprehensive exam over materials covered since the start of the course. Each exam is formatted in a similar fashion to the actual *AP Biology* exam and is scored using the scoring formula and standards used on the *AP* exam. Each exam is worth 100 test points. One of the comprehensive unit exams is used as the first semester exam. After grading, all unit exam questions are reviewed, again for reinforcement of concepts and unification with the four big ideas and enduring understandings as described in the course objectives.

Final Practice Exam

Approximately one week prior to the scheduled date of the *AP Biology* exam, students come to school on a Saturday and take a practice exam. This exam is designed, timed and scored like an actual *AP Biology* exam. Students complete a topical analysis of their exam to get an idea of areas they need to review and focus on prior to the actual exam.

Student Evaluation

Homework assignments, lab reports, tests, and unit exams are used to evaluate student's learning.