

## **AP/DC Biology Syllabus**

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### Course Description

Advanced Placement Biology is a further study of Biology concepts that is designed to be like a college course in its pacing and depth. Emphasis will be placed on cell biology, cell energetics, genetics and ecology. Laboratory activities comprise at least one-fourth of classroom time.

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Course Goals - As the result of this course, students will be able to...

1. Articulate the workmanship of God as it pertains to biology
  2. Recognize and conclude the reliability of God's word as it pertains to biology
  3. Acknowledge Biblical creation as the logical origin of life and providence as the means of survival.
  4. Apply the scientific method and critically evaluate scientific information.  
Conduct scientific research, generate testable hypotheses, design valid experiments to test the hypotheses, conduct experiments using appropriate laboratory techniques, collect quantitative and/or qualitative data, interpret data, and draw conclusions based on data.
  5. Apply relevant chemical principles to the study of biology.
  6. Master biological organizations, systems and processes at a college-level.
  7. Communicate research findings in written and presentation formats.
  8. Draw Biblical application from research findings and experimental results.
  9. Apply the foundational knowledge to real world issues and problems
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### Mission Connection

LCCS exists to glorify God as a community of faith and learning dedicated to forming disciples of Jesus Christ, pursuing goodness, truth, and beauty, cultivating wisdom and virtue, and furthering the highest ideals and practices of human flourishing. This course supports the LCCS mission to educate and equip students with knowledge and the love for God.

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### Textbook and Required Materials

1. Textbook: *Biology In Focus*, 2<sup>nd</sup> AP Edition by Campbell, 2017
  2. *Test Prep Series* booklet AP Biology to accompany Campbell Biology Textbook, 2017
  3. *POGIL (Processed Oriented Guided Inquiry Learning) Activities for AP Biology*, 2012
  4. DVDs and streaming videos by Answers in Genesis
  5. Streaming video resources via Discovery Education
  6. *How to Cite the Purdue OWL in MLA* The Purdue OWL. Purdue U Writing Lab, 2016.
  7. Internet connection
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## Classroom Procedures

- Come to class quietly with all learning materials and prepared to learn.
  - Have your homework ready to be checked/stamped at the beginning of class.
  - Lab reports & project assignments are due at the beginning of class.
  - Record homework assignment from the Homework board.
  - Prepare for learning by completing the Bell Work activity
  - Participate in all class and collaborative group activities.
  - Seek Mrs. Gaul's permission if you need to leave the classroom or your seat during instruction.
  - Remain in your seats until Mrs. Gaul dismisses you.
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## Classroom Expectations (Student Learning Agreement)

God has created us each uniquely. He has also created us to worship Him with our efforts in everything that we do. Seeking to perform at the highest level of excellence is an act of worship to our Creator. As such, I agree to the following:

- I will be **ON TIME** for all classes every day.  
I understand that a total of three unexcused tardies to any and all of my classes will result in an immediate before or after-school detention.
- I will be **PREPARED** for class every day.  
I will have a writing utensil, paper, my textbook, and any other necessary resources for success in the classroom. Not being prepared for class may result in a deduction of points from my class participation grade.
- I will **COMPLETE** all assignments on time.  
I understand that late assignments will result in a deduction of 10% of the assignment grade *per day* that the assignment is late up to 50%. After 5 days, the grade becomes a zero for the assignment. Late work will not be accepted for credit but may still be required to be completed.
- I will **RESPECT** my instructor(s), any LCCS staff member, volunteer(s), classmates, and other students in other grades.  
Profanity, rude gestures, cruel teasing or put downs will not be tolerated. Such behavior(s) will first be addressed and managed by the instructor. If such behavior(s) continue students may be referred to the Dean of Students.
- I will keep my **CELL PHONE OFF** and away at all times during the school day (8 am-3:10 pm).  
I understand that if my cell phone is visible or on, the instructor will confiscate the device and the Student Handbook Cell Phone Policy will be followed.

## In addition to the above student expectation, the following specific expectations apply to AP/DC

Biology to ensure successful learning outcome: AP/DC Biology is a challenging and demanding course, but with dedication and commitment many students do succeed. There are many resources available to help you, and students using them often succeed. I am committed to helping you be as successful as you choose to be, so please do not hesitate to come in or contact me for any questions, concerns or assistance. In this class, students will...

1. Demonstrate the biblical principles of RESPECT, RESPONSIBILITY, KINDNESS AND DILIGENCE.
2. Come to class prepared. In order to facilitate class discussions and reduce lecture time in favor of collaborative lab exercises and knowledge enhancing activities, you must complete all required homework assignments.

3. Need to submit assignments on time at the **beginning of class.**
  4. Study at home. Students are expected to spend a **minimum of 30-45 minutes of independent study each evening and several hours each weekend.**
  5. Need to **write in complete and thoughtful sentences to thoroughly explain his/her ideas and knowledge.**
  6. **Follow all Lab Safety Practices and clean-up procedures.**
  7. Read the lab protocol carefully and complete any **pre-lab assignments before each lab activity.**
  8. This is a college level course. It will be challenging. It will **require a significant amount of work and a tremendous commitment. Yet, it will be stimulating and rewarding!**
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Discipline: To instruct and govern; to teach rules and practice, and accustom to order and subordination (Noah Webster 1828). Discipline is done in the classroom as necessary to maintain a safe, orderly and conducive-to-learning environment for all students. Students whose behavior is deemed by the teacher to be disrespectful and/or disruptive to the teaching and learning processes by any means will serve the following consequences:

- 1<sup>st</sup> offense – verbal warning. (seating may be changed)
- 2<sup>nd</sup> offense – The student will have a meeting with Mrs. Gaul and parents will be contacted.
- 3<sup>rd</sup> offense – The student will be given a detention and be referred to the Dean of Students.

Students removed from class due to disciplinary problems are responsible to acquire any missed work or notes.

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#### Course Outline

1. Understanding science and scientific inquiry through a biblical worldview
  2. Evolution or Creationism as the Foundation of Biology? (Ch. 1 and Genesis 1)
  3. Chemical Context of Life (Ch. 2)
  4. Water and Life (Ch. 2)
  5. Carbon and the Molecular Diversity of Life (Ch. 3)
  6. Tour off the Cell (Ch. 4)
  7. Membrane Transport and Cell Signaling (Ch. 5)
  8. Introduction to Metabolism (Ch. 6)
  9. Cellular Respiration and Fermentation (Ch. 7)
  10. Photosynthesis (Ch. 8)
  11. The Cell Cycle (Ch. 9 & 10)
  12. Molecular Basis of Inheritance (Ch. 13, 14 & 15)
  13. Genetics (Chapters 11 & 12)
  14. Ecology (Ch. 40, 41 & 42)
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#### Major Assignments

- One presentation project
  - One research project
  - Unit Tests
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### Homework:

Nightly homework is required. Even if no specific homework is “assigned” students are still expected to review notes and do extra practice exercises from the Test Prep Series. Additional homework is assigned in an effort to reinforce specific concepts and is never given as “busy work”. The frequency of assignments depends on the level of difficulty and type of material covered or will be covered. Most homework will be stamped and given credits for completion of the assignment, while some will be collected and given credits for correctness.

1. Missing homework will receive a Missing (M) mark which equates to a “0” grade on the gradebook until it is submitted.
2. Late assignments will receive 10% deduction in grade per day.
3. All late/Missing or Incomplete assignments of the current chapter must be submitted within 5 week days from the day it is due to receive late credit.
4. A pattern of late homework will result in a parent contact.

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### Assessments

Formative assessment – includes homework assignments, class assignments, lab exercises, and quizzes. Quizzes will be both announced and unannounced. This is to check for understanding and make sure students are keeping up with the learning materials.

Summative assessment – chapter Tests at the end of each chapter, Formal Lab reports, research projects, and midterm exams at the end of the semesters. Midterm exams comprise previous test materials. Always review!

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### Field Trips

No field trips planned at this time.

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### Grading Overview

#### Weighted Structure

- 40 % Tests/Projects
- 30 % Quizzes/Labs/Minor Projects
- 20 % Homework/Classwork
- 10% Class Participation

#### Grading Scale

4.0 = A = 93-100	2.0 = C = 73-76
3.7 = A- = 90-92	1.7 = C- = 70-72
3.3 = B+ = 87-89	1.3 = D+ = 67-69
3.0 = B = 83-86	1.0 = D = 63-66
2.7 = B- = 80-82	0.7 = D- = 60-62
2.3 = C+ = 77-79	0 = F = 0-59

M = Missing assignment (grade “0” until the assignment is turned in)

I = Incomplete

P = Pending assignment (the assignment is turned in but not graded)

E = Excused assignment

### Class Participation and Attendance

It is important that you be present in class and actively participate in class discussion and collaborative group activities.

- If you anticipate a pre-planned absence, you need to communicate the absence to Mrs. Gaul in advance.
  - If an unplanned absence occurs, you need to communicate with Mrs. Gaul as soon as you return to class regarding missed assignments.
  - In-class assignments during your absence may not be possible to make up.
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### Make-up Work

If you are absent, it is your responsibility to communicate with Mrs. Gaul and check Family Portal and Google Classroom to obtain any notes, handouts, or other materials that you may miss. All PowerPoint notes, POGIL activities, and handouts can be found on Google Classroom. The hard copies of stated materials may also be obtained from the absent folder labeled "AP/DC Biology" in the classroom. Homework assigned prior to an absence must be turned in the day you return. Excused absences will be given 2 days for every day absent to complete assignments assigned during your absence. If you are involved in extracurricular activities where you may miss class, you are expected to keep up with the course materials. Stay on top of missed work by checking Family Portal and Google Classroom regularly.

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STUDENT: I have read this syllabus and understand what is expected of me.

Signature \_\_\_\_\_ Date \_\_\_\_\_

PARENTS: My child has discussed the syllabus with me. I understand it and will support it.

Signature \_\_\_\_\_ Date \_\_\_\_\_