

AP Biology Syllabus 2022-23
McKinley Classical Leadership Academy

Instructor: Dr. Jason Kesselring (Please call me Dr. K or just Doc)

Course Website: <https://www.slps.org/Domain/4011>

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Materials: 1) Textbook - OpenStax: Biology (For AP Courses) - it's online 2) Microsoft Teams access
3) Technology (SLPS will provide, but please don't forget to bring it!)
4) 3 ring binder with paper or notebook 5) Folder 6) Writing utensil (pencil and pens)
7) Calculator (Scientific or graphing)

Upfront: Welcome back! Some of you I have taught before, some of you I have not. I strive to be approachable and to make learning enjoyable. I was a pediatrician for 13.5 years prior to teaching (odd career change, tell me about it!) This is Year #5 for me at McKinley, and I'm fully vested in a) helping students feel comfortable getting back to school and b) doing well once they are in my classroom.

Philosophy: If you are taking this class, there are decent odds that you are considering a career in something science related. Either that, or you are a motivated student looking to take care of requirements before going off to school to study something else. Regardless, you are clearly motivated, and the class will be structured to reflect that. Whether you are pursuing basic science, applied science, or you are just looking for a challenge, this course will prepare you for "the next step."

Science, like many subjects, requires a blend of independent work as well as collaboration. **My expectations are that you will do sufficient preparation to come to class ready to learn and to participate to the best of your capability.** That way, when group work arises, you are ready to help out as a full member. I want this class to be appropriately rigorous; but I also believe in extending a helping hand! You have the right to expect me to treat you with respect and fairness (and I'm huge on using "thank you" and "please" - call me out if I don't!) This is also a two-way street, and I expect the same from each student.

I will work hard and do my best to assist and help each of you to achieve to your fullest capacity. One student succeeding is not predicated on someone else doing poorly. With appropriate instruction and effort, it is my goal to have each and every student in this class succeed.

I think a lot of students like Biology because it seems a little less intimidating than Physics and Chemistry. It isn't EASIER at all. The amount of math that you have to do in Biology is turned down. We will work A LOT with interpreting data (that's huge). Biology (at least at this level) is extremely concept driven - and we really get into the details of models, explanations, and predictions. I think you will also find that each unit really ties-in the unit before it AND foreshadows the next one. There are plenty of connections to make between units (it's not like one unit ends and that knowledge is just "done".) I hope you find the topics fascinating. And for those of you that are taking Anatomy and Physiology with me (or will take it), the classes play off each other nicely.

Course Outline: Please note that I will have to keep fairly close to this schedule. The last 2 weeks of material I will reserve for review for the AP Exam.

This course is also offered for credit via dual enrollment through UMSL. Credit may also be earned via AP. I advise you signing up for BOTH. Your score on the AP Exam does NOT influence your grade in the class. Scoring a 3, 4, or 5 on the AP Exam will earn you one semester of college credit at MOST (not all) universities. Earning an "A" or a "B" in this class will (if you take it for dual enrollment) will earn you one semester of college credit (as a non-science major). Essentially, you have two chances to earn credit beyond high school if you demonstrate mastery of the material.

Your sequence:

Semester 1	Semester 2
The Chemistry of Life	Gene Expression
Cell Structure and Function	Natural Selection
Cellular Energetics (Baby Biochemistry!)	Ecology
Cell Communication	Review for the AP Exam
Heredity	

Grading: I reserve the right to tweak the grading formula as needed to keep students a) motivated and b) to be accurate or reflect extenuating circumstances. If I need to make an alteration, I will let you know.

Here's the formula:

Unit Tests and assessments - 55%

Lab Work - 15%

Classwork - 25%

Homework - 5% (see the note below on homework)

All homework will be given a due date. If it is late, I will take it ONE CLASS PERIOD LATER (unless there is illness or there has been communication ahead of time about extenuating circumstances). After that, it goes in as a 40%. Remember, homework is only worth 5% of the final grade. I also post answer keys after the due date for you to check your work. THE POINT OF HOMEWORK IS PRACTICE. You need it, especially in this class. When you have classwork for me, don't waste time!!!! It might just be one problem that I ask you to do - but the deadline is not extended (it is CLASS).

Sometimes, your homework might be "review your note packets" - that's REALLY IMPORTANT!!!

There is a test given during finals, but it is a unit test and will carry normal weight.

There will be limited opportunities for extra credit. When those opportunities present themselves, it will be for the entire class.

$(\text{Total points earned} + \text{extra credit points}) / (\text{Total possible points} - \text{exemptions})$

Letter grades are as follows: **A (89.5% to 100%)** **B (79.5% to 89.4%)** **C (69.5% to 79.4%)**
D (59.5% to 69.4%) **F (59.4% and under)**

Tests and quizzes: This section is very important; please read in detail. There will be a test at the end of each unit. Each unit test will be in AP format. That means I will pull together a selection of multiple choice and free-response questions from prior AP exams. This is done to give you/your student as many chances to practice what the real AP test will be like.

On the free-response portion of the AP Biology test, you either get the point, or you don't. Half-points don't exist. I only say this because of this: I will be a stickler for details. You will need to get used to explaining and JUSTIFYING your answer. A lot of students have trouble with this at first. I will do my very best to help you through the year to develop the skill of making claims, citing evidence, and connecting the two with reasoning. You will get used to this - don't worry!

In all likelihood, you may not score as highly on tests as you have in the past. AP tests are hard. I will employ a scaled score for assigning letter grades. At my AP meeting, getting in the 70-75% range on multiple choice & slightly above 50% on the free response will get you a proficient score on the actual AP

test. My advice is to study to understand the material; the proficient scores of 3, 4, or 5 will follow. I have enclosed the AP rubric/scale with the syllabus - I will only employ this scale with end of chapter tests.

If you miss a test, we will schedule it as soon as it is reasonably possible. Please communicate with me so we can work within the constraints of your other classes vs. this class.

If you score below an 80% (scaled score) on a test, **you MUST do test corrections.** In order to obtain credit for doing test corrections, the student must:

- Correct their response (show work, if necessary, on the Free Response Questions)
- Explain why they changed their answer and the new answer is correct.

If both parts are not present, you do not get credit. This is an exercise to help them learn. As such, it is open note and open resource, but they cannot improve their grade above 80% (I will average the old score and the new score, but it cannot exceed 80%).

I will employ quizzes in this class, as a tool to help you with your writing. I will let you know in advance if what we are doing is to figure out where you are at - or is a mid-unit "mini-quiz" to see if you are keeping up.

Lab Reports: (What follows here is assuming we can do any lab work) When labs are assigned, I expect the students to read the lab AHEAD of class (I reserve the right to quiz them ahead of the lab), run calculations on the lab, and show their work. I also will ask them follow up questions regarding the concepts. This year, I will push them to think in terms of Claim-Evidence-Reason: Make a claim regarding the data, back it up with evidence, and explain their reasoning in detail. While we may not have a lab in every single unit (and some units we may have more than one), this portion gets students to think independently and thus worth a fair portion of their grade.

My goal this year is to have the students improve their writing skills. As such, I am going to teach scientific writing, with the goal of building up to a formal lab report by year's end. The goal is NOT to teach students archaic scientific writing; the goal is to teach students how to present arguments based on evidence in a structured format. We'll get there.

Classwork: This is a significant portion of your grade. I will grade you on work you do in class (individual and group). This serves several purposes. 1) It gives you a chance to earn credit for doing earnest, hard work in class while I'm giving you feedback on what you do. 2) It gives you a chance to show what you know to me - and where you need to improve - in a low risk environment. 3) This class is intended to run a bit like a seminar. In order for that to work, you have to be willing to work.

Homework: Homework will be assigned as needed to supplement or further learning from the classroom. I am fully aware that you likely have multiple requirements upon your time, via other courses and after school activities. If we are to prepare you for the AP exam at the end of the year, there will be some "outside of class" work that needs to get done. It will not be busy work (that doesn't help anyone). Any work done outside of class is to further our learning when the class convenes together. While not wanting to overload you, I need to make sure you are fully prepared by the end of the year.

Class Structure: This year, it will be a mix of things. The start is nothing new - students will have their Do-Now. After that, it will depend on the day. Many days, I will start by asking students if there are questions from the lesson before. From there - many days will have guided activities that I will run the students through. Some of this will be via online simulations or case scenarios. Some of this will be through materials to manipulate in class. Some of these will be labs. There will be a regrouping to discuss the concepts at play to ensure the class is on track. Many of these activities will span MORE THAN ONE CLASS. There will be some lecture. I will do enough that you will be used to it for your college experience (it WILL happen), but not so much to bore you. Put it this way, if you are depending on me to GIVE you knowledge, you've come to the wrong class. You will learn much more deeply (especially this type of material) if you wrestle with yourself; I'm here to help guide you on the way.

There will be more group work this year. Each unit will have an “Applied Biology Problem”. I will introduce the problem at the very beginning of the unit so the students KNOW what they are building towards. The problem will be at the end of the unit - and will take 1 or 2 classes to complete. The students will have to work with their group to solve the problem (sometimes, it’s a series of questions; other times, it’s MUCH MORE open ended).

I want to make clear, as your education advances (especially in your specific course of study) that you will need to take an honest assessment on a regular basis of what you know, and what you don’t know. If there is something unclear, find or ask for another source, or solicit an alternate explanation. Know how you learn best, and I will do my best to assist you during the process. As such, another focuses this year will have me forcing the students to rely on me less for answers. The students might expect to hear, “No questions for Dr. K for 15 minutes.” I want them to use their resources and collaboration to figure things out.

Absences: This will inevitably happen, whether these are last minute or scheduled. Communication is key! For brief absences, we will assign any homework, classwork, or lab work that was missed. This should be completed as soon as reasonably possible so your learning can continue with minimal interruptions. If you are out for a prolonged period of time, please talk with me, and we will set a schedule to have you catch up.

My availability after school: I’m here working most days for some time. Tuesdays are difficult due to a standing obligation for me. If you have a ride or can wait for the activity bus, schedule with me so I can let my principal know that you are here after school.

Classroom expectations: As stated earlier, I’m a firm believer in working hard, but also in treating each other with kindness and respect. Learning goes MUCH BETTER in a relaxed environment where there is mutual respect. As such, the specific rules that we will make together at the beginning of the year will reflect this. You are close to being adults, and I will treat you as such so long as your behavior and effort reflect this. Specific procedures are listed at the end of the document. My big expectation and rule are Act like an adult and I will treat you like one. I’m in Year 5, and 99% of my students do just fine with this expectation.

Please:

- Come to class prepared - have your materials with you and do enough preparation that you are ready to learn.
- Be respectful and kind to your classmates and me (I use “thank you” and “please” when talking with all of you, so please afford me the same courtesy!)
- Put cell phones away - my mom nearly died twice during the 2019-20 school year, and mine wasn’t out while she was in the hospital. Please put yours away. If you need to take a call - step out into the hall. If this becomes an issue, I will contact your family.
- Stay on topic
- Adhere to the rules of the student handbook
- Be on time
- Have work completed
- Communicate with me if you have specific problems, ahead of time if you can. This is another HUGE skill for after high school. It is much easier for me to help you if I know about issues. A simple email or side conversation fixes a lot - but it needs to come from you first. I promise you; I am easy to work with, and USUALLY work arounds exist - **if** I know about the issue.

Procedures: Any homework or lab report is due at the beginning of class unless stated otherwise. While I may occasionally use paper, we will use Microsoft Teams for the majority of the class assignments.

I will have a “do-now” or “warm-up” activity. This should be started at the beginning of class.

I will have a supply of paper, pens/pencils, or other materials if you are lacking material for the day. Please quietly help yourself to the material needed. Due to coronavirus, if you need to take a pen or pencil of mine, please keep it!

When I am giving a lecture or instruction, attention should be on me and the information I am conveying. No conversations or other distractions should be taking place. I will take questions from students in an appropriate manner (please, just raise your hand!)

I will put you in groups for group work - sometimes I will pick groups; sometimes students will pick. I am intentional about this - students need to learn to work with a variety of people. Of course, group work will require conversation and collaboration. However, your group should treat each other with respect, talk at a tone appropriate for learning, and have everyone participate. If you need help from me, please ask!

Should you be doing individual work in class, the room should be quiet unless I say otherwise.

There is no talking during tests. Period.

Please turn in your test to my desk (appropriate tray) or raise your hand to have your test collected (if applicable)

You may use a calculator on a quiz or free response portion of a test - graphing or scientific.

Food and water are not permitted on lab days. I also highly encourage students to wear closed shoes on lab days and to wear lab safe clothing. This is for your safety. Many of the lab activities will be low risk, but I urge students to prepare on the side of caution.

If you need to use the restroom during class, please raise your hand. Once I acknowledge you, you need to sign out before using the restroom. If this becomes a chronic issue, it will be discussed with the student first & then parents. I need you and expect you in my classroom as much as possible. If I see a pattern of avoiding my room, it will be addressed. The same holds for getting a drink during class.

Generally, I will finish right at the bell. If instruction is occurring, do not leave class until I have ended the class. I promise, I won't run over for unnecessary reasons & let your next teacher know. (I have started using a "Dr. K, be quiet alarm" 2 minutes before class ends to avoid this problem!)

I am very much excited for this class, this school year, and this group of students! Let's get to this! Please do not hesitate to contact me if you have any questions. I hope this is a great year for all involved.

Respectfully,
Dr. K