



Biology B - Course Syllabus 2016-2017

Instructor: **Melinda Heiner**

Room 203

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Parent/Student Resources:

“Synergy” website:
synergy.district6.org
(no “www”)

To track grade & attendance and to see notifications of due dates and hard deadlines in Biology B

Course Overview:

This course is designed to give students an in-depth look at biology and how it relates directly to the understanding of the workings of the living world. Students will specifically learn how biology relates to important fields such as health, medicine, the environment and nature. This course will consist of a number of laboratory activities and projects designed to help demonstrate the importance of the biological sciences and to help the students master the subject material. Literacy is emphasized through scientific readings and writing throughout the course.

Biology B Learning Targets:

1) DNA, Protein Synthesis, Mitosis & Meiosis

Students will demonstrate understanding of...

- DNA structure and function
- Genes and Chromosomes and how they relate to DNA and a person’s traits
- Protein Synthesis- how genes provide instructions for making proteins (traits)
- How and why cells divide (Mitosis)
- The production of egg/sperm for transmitting traits to the next generation (Meiosis)

2) Genetics

Students will demonstrate understanding of...

- Mendelian genetics and patterns of inheritance: dominant vs. recessive traits
- Punnett squares as a tool to track how traits are inherited from one generation to the next. Punnett squares help track patterns of inheritance in blood types, co-dominant and incomplete dominant traits, sex-linked traits, etc.
- Pedigrees as visual maps of inheritance patterns in families across multiple generations
- How karyotypes of chromosomes can be used to detect mutations and help identify genetic syndromes / conditions.
- Types of chromosome and gene mutations and what conditions/diseases they cause

3) Evolution, Classification and Ecology

Students will demonstrate understanding of...

- Natural selection and “survival of the fittest” as it relates to genetics and trait inheritance
- Evidences for evolution
- Classification of living organisms from bacteria to animals
- How organisms fit in with their environment and are shaped by the environment
- Relationships between organisms including predator-prey, mutualism, parasitism, etc.

4) Reading, Writing, Researching and COMMUNICATING Like a Scientist Students will be able to ...

- Read closely and find explicit information in science texts
- Using a variety of research tools to find current and relevant articles on scientific topics
- Developing questions to draw out discussion on scientific topics
- Sharing ideas and communicating with peers in a Socratic seminar format on scientific topics
- Writing a persuasive essay with commentary and evidence to back up claims

SOCRATIC SEMINAR- One of the highlights of Biology B is our Socratic seminars on “designer babies” and “human cloning”. These are both controversial and relevant topics in our society today and usually spark very interesting dialogues in class. We will first learn about these topics and then have two days of Socratic seminar on these topics. There will also be some writing assignments and reflection to these topics. As part of our preparation for the Socratic seminars, we may be watching two movies, “GATTACA” and “The Island”, in class. The first is about a futuristic society that is obsessed with genetic perfection, where most people are genetically engineered to be free of any genetic defect or predisposition. The second is about a future world where human clones are made for high-paying clients. Both movies are rated PG-13 and I accept your signature on this syllabus to reflect your permission for your child to watch these movies in class. Please contact me directly if you need any further information on the movies or on the topics we will be discussing in class.

Grading

Approximately 60% of Grade– “Mastery of Learning Targets” as demonstrated by:	Approximately 40% of Grade- “Application of Learning” as demonstrated by:
Unit Tests	Labs /Scientific Inquiry * One will be an <u>essential assignment</u>
Quizzes or check-ins	Activities that show student’s ability to apply their new knowledge
Targeted Assignments*: Graded assignments that help demonstrate student’s current level of understanding/ progress towards mastery of learning targets	Projects

LATE WORK POLICY: Assignments will have assigned “DUE DATES” and may be checked off or turned in on that due date. Students MAY turn in late assignments FOR FULL CREDIT up until the END OF THE UNIT (usually the day of a unit test). After the unit is completed, any missing work will NO LONGER BE ACCEPTED. The only exception to this policy would be for certain projects or assignments which will have a “hard deadline”. Students will be notified if the assignment has a “hard deadline”. Points will be deducted for assignments turned in after the hard deadline. Students will receive multiple notifications of missing assignments, especially as the end of a unit is approaching. Grades are posted regularly in the classroom with missing assignments highlighted. Students may also receive printed progress reports which highlight missing assignments.

TEST RE-TAKE POLICY: Instead of a cumulative final, students will have the opportunity to **retake ONE unit test at the end of the trimester**. Only scores that IMPROVE will be recorded in the gradebook.

GRADE DETERMINATION: No assignments are “weighted”. Grade is based on total points earned. Overall points will be entered into the gradebook and overall grades will be determined as:
A = 90% and above B = 80%- 89% C= 70%-79% D= 60%-69% F= 59% and below

BIOLOGY BINDER: In order for students to be successful in personal management, organization is key. I STRONGLY RECOMMEND students keep a SEPARATE BINDER for biology handouts, as there will be many. Suggested TABS would be

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|------------------|---|
| 1) Lecture Notes | (these become the TEXTBOOK for the course) |
| 2) Warm-Ups | (and exit tasks... usually on same sheet of paper) |
| 3) Assignments | (targeted assignments, homework worksheets, study guides, etc.) |
| 4) Labs | (labs or activities) |

STUDENT’S RESPONSIBILITIES

Mastering the learning targets in Biology A requires students to **actively think** about what they know and to relate that to new ideas to be learned. To be successful, students must:

1. Be **actively involved** in class, **ask questions, contribute** to discussions
2. **Complete or attempt all assignments and labs.** All assignments are designed to help you learn. They are not busy work.
3. **Ask for help and ask questions** of fellow students (when appropriate) and the teacher (when appropriate) when you are confused or don’t understand.
4. **Do your homework on time** so that you are not slowing the class down by not being prepared.
5. **Prepare in advance** for tests and quizzes and group learning activities like Socratic Seminars. Review notes, re-read material and study guides completed in class, find someone that you can verbally explain concepts to ahead of the test (if you can explain it well to someone, you know it).
6. **Do not distract** self and/or others students from the opportunity to learn.
7. **Follow the guidelines** set by the school and the district student behavior code. Come to class **on time and prepared** with materials
8. **In group-work, use the 95 / 5 rule...** (95% biology / 5% social, only after the biology is done!)
9. Remember that **cell phones** and other electronic devices **should be OFF & out of sight** unless explicitly teacher approved for a given activity & then it must only be used in the manner approved. If such devices are out or disrupt class by ringing, a cell phone referral will be issued as per CAHPS discipline policy.
10. **Be safe** and follow all lab safety rules at all times
11. **Be respectful** to the teacher, fellow classmates, and any guests to our classroom (guest speakers, substitute teachers, student teachers, etc.)

Attendance (Follow school & District policies):

Attendance and participation are **vital to your success** in Biology B. We will be doing a lot of lab activities which are difficult to make up. Labs and other learning activities are most valuable when done in class with the teacher and other students to enhance learning. Without good attendance and active learning, acquiring the knowledge and skills of high school biology is nearly impossible. If you do miss a lab, **you must make arrangements with your teacher to come in to make-up the lab within a timely manner.** Many biology labs have consumable supplies that are only available for a short period of time.

CHEATING: I feel strongly that cheating is a moral and ethical issue. I believe that integrity and effort are more strongly correlated with success in life than a high grade. Students caught copying homework, LAB WORK, class work, or answers on a test/quiz will receive NO CREDIT on the assignment. Both the student caught copying and the student whose paper is being copied will receive NO CREDIT on the assignment. In addition, students are NOT allowed to discuss the contents of a test to other students who have yet to take that test. If they do, they will receive NO Credit on the test. If your student is caught in any of these cheating situations, you as parents / guardians will be contacted.

PARENTS

If you need to contact your student for an emergency or other reason during the school day, PLEASE call the school phone number (541) 494-5260 and your student will be contacted. Please do **not** call or text your student's cell number during class because it causes disruption to your and other student's learning.

The simplest way to reach me is by email (melinda.heiner@district6.org) . I generally respond to emails within 24 hours. For student help outside of class, I am available mornings before school (every day) and lunches (except Fridays). I am generally NOT available after 4:00pm unless special arrangements have been made.

BIOLOGY B SYLLABUS ACKNOWLEDGEMENT FORM

Note: Please read this syllabus carefully and sign it, have your parents/guardians read it and sign it, and return this portion to me by _____ Be sure to place the rest of this document into your binder for Biology B

I have read and understand the course expectations and policies:

Print Student Name (Please print neatly)

Student Signature

You, your daughter/son, and I are partners in your students' education. You can help him/her succeed by checking with them as often as possible about their progress and looking with them at their assignment completion and/or needs. Please also plan on attending parent/student teacher conferences March 22nd & 23rd, 2017. Contact me any time with questions or concerns.

Parent/Guardian Signature

Parent/Guardian Email – please print neatly

Best Phone Number(s) to reach you

First preference: _____

Second option (if available): _____