



Course Syllabus		
Franklin High School	Megan Whisnand	2019-2020
Course Title:	NGSS Biology	Grade Level(s): 11th
Prerequisites: NGSS Physics and NGSS Chemistry		
<p>Course Description:</p> <p>Welcome to NGSS Biology. This lab-based course covers the foundational principles of modern life science as outlined in the Next Generation Science Standards (NGSS). We will learn the content and applications of Biology by using science and engineering practices utilized by professionals in STEM fields.</p> <p>Students will work in small teams to complete three major investigations during the course contributing data to ongoing research projects.</p> <p>Students will explore ecosystem health using arthropods as an indicator species.</p> <p>Students will investigate natural selection through blue-green algae that live in extreme environments.</p> <p>Students will collaborate to engineer a food system, and will measure the changes their choices make in efficiency of food production.</p> <p>Additionally, there will be a focus on how we can utilize the tools of biology to solve problems identified at the local level, from air pollution to climate change, and how those local solutions can contribute to global progress on such issues.</p>		
<p>Standards:</p> <p>We will address the NGSS performance expectations for Life Science and some of the performance expectations for Earth and Space Science as well as Engineering and Technology. For a more detailed look at the specific standards, see this short link: http://bit.ly/NGSS_Bio</p>		
<p>Schedule of topics/units covered:</p> <p>The following headings provide a thematic overview of the standards for the year.</p> <ol style="list-style-type: none">1) Structure and Function2) Inheritance and Variation of Traits3) Matter and Energy in Organisms and Ecosystems4) Interdependent Relationships in Ecosystems5) Natural Selection and Evolution.		

Differentiation/accessibility strategies and supports (TAG, ELL, SpEd, other):

All assignments will be available digitally on Google Classroom. If you need assistance with this platform, please see me during tutorial or by appointment. I will follow the guidelines laid out in each student's IEP, as well as work directly with the student and support teachers to make sure each student's needs are met and they are excelling in the class.

Final proficiencies:

1. Constructing Explanations and Communicating Scientific Information

At the end of each unit, students should be able to:

- a. explain scientific knowledge and the evidence supporting that scientific knowledge
- b. create or interpret scientific models, and connect the model to the evidence
- c. obtain, analyze and evaluate scientific information

2. Asking Questions and Identifying Problems

At the end of the 11th grade year, students should be able to:

- a. explain a scientific question and the connection between that question and content in class
- b. formulate a testable hypothesis and make predictions
- c. explain the independent variable, dependent variable, and how to measure each
- d. explain an engineering problem and the criteria and constraints specific to that problem

3. Analyzing and Interpreting Data and Designing Solutions

At the end of the 11th grade year, students should be able to:

- a. present data in tables, graphs and other relevant forms
- b. explain conclusions based on data through claim, evidence, reasoning
- c. evaluate whether the criteria and constraints of an engineering design challenge were met by the design proposed
- d. propose novel questions based on the results of an experiment

4. Applications of Science in Society

At the end of the 11th grade year, students should be able to:

- a. explain the ways in which Biology is applied to solve problems and answer questions in the real world
- b. discuss and evaluate the ethical impacts of how Biology is applied to solve problems and answer questions
- c. document the work of others and sources of information used

Assessment (pre/post)/evaluation/grading policy:

Student's grades in the course will be assessed in several ways in order for them to demonstrate their understanding of the standards. They will show their knowledge in performance based labs and projects, class presentations, lab reports, article summaries, class exams, quizzes, essays and more.

Grades are broken down

100-90% A

89-80% B

79-70% C

69-60% D

59% and below F

Behavioral expectations:

All voices are to be respected and heard in this class. Scientific discourse involves discussing concepts and ideas that often have no one correct answer, with many stakeholders who have firm views on what is the best course of action. Thus, we will practice discussing a variety of science topics throughout the school year.

All rules of student conduct outlined in the student handbook are, of course, in effect in this class. Pay particular attention to rules pertaining to the policies related to cell phones and academic dishonesty/plagiarism. Science is built upon the work of many others and citing your sources is one way to acknowledge their contribution to your growth and learning.

Behavioral Expectations:

At Franklin High School, in addition to following all school rules, we expect staff and students to:

Strive to be...

Thoughtful

We celebrate the diversity and recognize the varied learning needs of our peers

We put time and effort into our work

We are engaged in the classroom and learn bell-to-bell

We process complex issues with care

Respectful

We respect the diverse learning needs of our peers.

We follow directions and class norms.

We do not use racist, sexist, or homophobic language of any kind.

We keep distractions, such as electronic devices put away during class time, unless otherwise directed.

Organized

We are present and on time for class.

We bring all necessary materials.

We keep track of assignments, deadlines, and activities.

Neighborly

We only leave class when we have a hall pass.

We treat the learning environment with care.

We clean up after ourselves.

We help when we see a need.

Generous

We share our resources with each other.

We offer a fresh start to staff and ourselves.

We help each other when needed.

If problems arise as a result of disregard for behavioral expectations, these are the consequences:

1. Warning
2. Talk to you; privately if possible
3. Conference with you and school support team / Level 1 Report documentation
4. Call Home
5. If these steps do not resolve the problem, a conference with school administrator will be necessary / Level 2-3 Referral

Technology Policy:

Phones need to be off and away in the classroom, unless otherwise directed. According to school policy, if a student has a phone out in class, the phone will be collected and brought down to the VP Office. The student can pick up the phone at 3:15 in the VP office. The second time, the parent is called to pick up the phone at the end of the day. For parents, if you need to contact your student during instructional time, please call the main office: 503-916-5140.

Academic Honesty:

Academic honesty is expected from all students. Cheating or plagiarism will not be tolerated. Examples include:

1. Plagiarism: the intentional or unintentional failure to give clear credit to the author of words or ideas not your own.

2. Using cheat notes or looking at someone else's paper during an exam.

3. Giving or receiving confidential information about exams or assessments.

4. Keeping knowledge of dishonorable conduct from teachers or administrators.

Consequences: No credit given for initial attempt at skill. Must be redone and completed within specific dates. Referral written; call home.

Please ask me, at any time, if you have questions about what might be considered plagiarism.

Safety issues and requirements: