



## Syllabus: Practices & Policies

2021-2022

### Franklin High School

#### Section 1: Course Overview

<i>Course Title</i>	NGSS Physics	
<i>Instructor Info</i>	Name: Brit Verissimo	Contact Info: bverissimo@pps.net
<i>Grade Level(s)</i>	9th grade	
<i>Room # for class</i>	Room: S-016	
<i>Credit</i>	Type of credit: Science	# of credits per semester: 0.5
<i>Prerequisites (if applicable)</i>	N/A	
<i>General Course Description</i>	This is an introductory level physics course based on the Next Generation Science Standards (NGSS). This class will dive into scientific inquiry by formulating research questions, creating experiments, collecting data, creating arguments from data, identifying patterns, and using those patterns to predict future situations.	

#### Section 2: Welcome Statement & Course Connections

<i>Personal Welcome</i>	>Welcome to your 9th grade physics course! I am so happy to have you in my class and I am excited to start our scientific journey together!
<i>Course Highlights (topics, themes, areas of study)</i>	We will use the concepts of Physics as a vehicle to enhance our critical thinking skills. We'll figure out answers to questions through the scientific process: carefully changing something and seeing what happens as a result. We'll also do some engineering, which is the process of solving problems by breaking them down into pieces, brainstorming solutions, and comparing different possibilities. The topics that we will cover in this year-long



	<p>course include, but are not limited to:</p> <ul style="list-style-type: none"> <li>● Patterns</li> <li>● Energy and Engineering</li> <li>● Forces</li> <li>● Waves and Technology</li> <li>● Electricity, Power Production and Climate Science</li> <li>● Space and the Universe</li> </ul>
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<p>Course <i>Connections to <a href="#">PPS</a> <a href="#">Reimagined Vision</a></i></p>	<p>We will focus on student assets and work to create equity focused learning environments. Students will learn to collaborate with peers in order to solve real-world problems in preparation for their entry into the global workforce. Students will learn to be empathetic, self aware, and reflective. We will center racial equity and social justice issues in our classroom communities.</p>
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<h2 style="margin: 0;">Section 3: Student Learning</h2>
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<p><i>Prioritized Standards</i></p>	<p>HS-PS2-1. Analyze data to support the claim that Newton’s second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.</p> <p>HS-PS2-2. Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.</p> <p>HS-PS2-3. Apply science and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.</p> <p>HS-PS2-4. Use mathematical representations of Newton’s Law of Gravitation and Coulomb’s Law to describe and predict the gravitational and electrostatic forces between objects.</p> <p>HS-PS2-5. Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current.</p> <p>HS-PS3-1. Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.</p> <p>HS-PS3-3. Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.</p> <p>HS-PS4-1. Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.</p> <p>HS-PS4-2. Evaluate questions about the advantages of using digital transmission and storage of information.</p> <p>HS-PS4-3. Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.</p>
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HS-PS4-4. Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.

HS-PS4-5. Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.

HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

HS-ETS1-4. Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

HS-ESS1-1. Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy that eventually reaches Earth in the form of radiation.





HS-ESS1-2. Construct an explanation of the Big Bang theory based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the universe.

HS-ESS1-3. Communicate scientific ideas about the way stars, over their life cycle, produce elements.

HS-ESS1-4. Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.



The following skills will also be our grading categories in this course:

<b>Design</b> 	<b>Analyze</b> 	<b>Explain</b> 	<b>Apply</b> 
<p><i>Setting up experiments and using engineering design</i></p> <p>“I can use the practices of science to investigate phenomena and design solutions through inquiry and engineering.”</p>	<p><i>Analyzing data and arguing from evidence</i></p> <p>“I can use data to identify patterns and make evidence-based claims.”</p>	<p><i>Scientific content and knowledge</i></p> <p>“I can use scientific language and models to explain how something works and answer questions”</p>	<p><i>The impacts of science and engineering</i></p> <p>“I can explain how science and engineering are applied to address problems or issues in the world”</p>

[PPS Graduate Portrait Connections](#)



8/27 Work

I will help students grow their knowledge and skills in the following aspects of PPS’s Graduate Portrait:

- Inclusive and Collaborative Problem Solvers**
- Inquisitive Critical Thinkers with Deep Core Knowledge**
- Transformative Racial Equity Leaders**
- Resilient and Adaptable Lifelong Learners**
- Powerful and Effective Communicators**
- Reflective, Empathetic, and Empowering Graduates**

*Differentiation/ accessibility strategies and supports:*

I will provide the following supports specifically for students in the following programs:

*Special Education: Per student’s IEP, I will respect accommodations including but not limited to time for assignments, modes of content delivery, and methods of assessment.*

*504 Plans: Per student’s 504 Plan, I will respect accommodations including but not limited to time for assignments, modes of content delivery, and methods of assessment.*

*English Language Learners: Attention is given to making instructions explicit through visual and auditory means. Students may have access to a supportive peer, if appropriate and accommodations during assessments, as needed.*



*Talented & Gifted: Communication with student and family to identify specific strengths and specify opportunities for enrichment throughout each unit.*





8/27 Work

## Section 4: Cultivating Culturally Sustaining Communities

<b>Tier 1 SEL Strategies</b>	I will facilitate the creation of our Shared Agreements that respects and celebrates each student’s race, ability, language, and gender in the following by surveying students about:
<p><i>Shared Agreements</i></p> 	<ul style="list-style-type: none"> <li>• How they want to support each other in class, and how they want to be supported</li> <li>• What positive communities have looked like for them in the past</li> <li>• What they need to feel safe and comfortable in the classroom</li> <li>• How they want to show up to class in order to be and feel successful</li> </ul> <p>We will practice group work and then reflect on what worked and what didn’t. Throughout our time together, I will affirm the validity of all perspectives, ideas and lived experiences.</p> <p>I will display our Agreements in the following locations: On the wall(s) of the classroom.</p> <p>My plan for ongoing feedback through year on their effectiveness is:</p> <ul style="list-style-type: none"> <li>• Asking students to reflect on my class at regular intervals, both in surveys and conversations.</li> <li>• Checking in regularly with students.</li> <li>• Warm ups and exit tickets</li> <li>• End of unit surveys</li> </ul>
<p><i>Student’s Perspective &amp; Needs</i></p> 	<p>I will cultivate culturally sustaining relationships with students by:</p> <ul style="list-style-type: none"> <li>• Asking them genuine questions about themselves and their lives</li> <li>• Validating all perspectives and lived experiences</li> <li>• Allowing students to see themselves represented in the sciences and media by posting things in the classrooms that reflect who they are</li> </ul> <p>Families can communicate what they know of their student’s needs with me in the following ways: Families can best communicate their student’s needs with me by emailing me, or messaging me through the Remind app or Canvas platform.</p>



*Empowering Students*



I will celebrate student successes by:

- Creating an environment where students feel comfortable sharing their ideas and products with each other so that we can all celebrate
- Affirming that success is based on effort and energy
- Helping students see the intrinsic reward of challenging your brain
- Giving positive feedback and affirmations when students share answers and present out work, whether to the whole class, in small groups, or individually

I will solicit student feedback on my pedagogy, policies and practices by:

- Asking students to reflect on my class at regular intervals, both in surveys and conversations.
- Checking in regularly with students.
- Warm ups and exit tickets
- End of unit surveys

When class agreements aren't maintained (i.e. behavior) by a student I will approach it in the following ways: First and foremost I strive to create and maintain strong relationships with students. As the year continues, I hope that my relationships with students allow us to work through difficult times, in and out of class. If classroom agreements aren't being followed, I will kindly and encouragingly remind students of our shared class agreements that we created together at the beginning of the year. If this class agreements continued to be ignored or harmed, I will ask to speak with the student(s) one-on-one to see what's going on, either in the class or outside that class that's impacting how they show up to school. If these two approaches do not work, then I will seek input, advice and support from other folks that interact with the student(s) such as other teachers, sports coaches, club advisors, Step Up advocates (if applicable), SPED teachers/paras (if applicable), or other support staff at Franklin. If behaviors continue that harm our classroom and ignore our shared agreements, then I will also contact parents or guardians to receive further support and assistance with the student. If the behaviors involve referral-level actions, then I will also take these actions and communicate with the student that their actions are resulting in these documents being filed.

*Showcasing Student Assets*



I will provide opportunities for students to share and showcase their work with group work, gallery walks, and well-supported presentations to their peers. Student work will be posted and highlighted around the classroom.



## Section 5: Classroom Specific Procedures

<i>Safety issues and requirements (if applicable):</i>	<p>Procedures for emergency situations are printed and hung in each room.</p> <p>Lab safety procedures are discussed at the beginning of the year, and are re-taught with each lab activity. Students are expected to follow proper lab safety procedures at all times. If students ignore lab safety requirements, they will be removed from lab activities and a referral will be written.</p>
<i>Coming &amp; Going from class</i>	<p>I understand the importance of students taking care of their needs. Please use the following guidelines when coming and going from class:</p> <p>To leave the room for any reason, a student must have a hall pass. Students must check in with me before leaving the room, for safety purposes, and to receive the required hall pass.</p> <p>If a student is late to class, they will be greeted warmly and may jump into the activity that is occurring.</p>
<i>Submitting Work</i>	<p>I will collect work from students in the following way:</p> <ul style="list-style-type: none"> <li>● Paper</li> <li>● Online - Desmos, Canvas, sharing Google Docs or Sheets</li> </ul> <p>If a student misses a deadline, I will partner with the student in the following ways so they have the ability to demonstrate their abilities:</p> <p>Deadlines are given, but not strictly enforced in this class. Students are encouraged to revise in order to improve and continue to demonstrate their learning.</p>
<i>Returning Your Work</i>	<p>My plan to return student work is the following:</p> <p><i>Timeline:</i> Within one week for most assignments.</p> <p><i>What to look for on your returned work:</i> Student will find their grade, along with feedback for how to improve.</p> <p><i>Revision Opportunities:</i> Ongoing, and in multiple formats (written, verbal)</p>
<i>Formatting Work (if applicable)</i>	<p>Directions on how to format submitted work (ex. formal papers, lab reports, etc) can be found here: n/a</p>
<i>Attendance</i>	<p>If a student is absent, I can help them get caught up by:</p> <p>-Students should view the Announcements tab on Canvas to see what they missed during the week.</p>



	<p>-In-person, students can get notes they missed from a classmate, and asked about missed class activities.</p> <p>-Missed assessments may be taken during tutorial.</p>
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## Section 6: Course Resources & Materials

<i>Materials Provided</i>	I will provide the following materials to students: lab equipment and materials.
<i>Materials Needed</i>	<p>Please have the following materials for this course: Your <b>school-issued chromebook and charger</b>, a <b>notebook</b> and <b>pens/pencils</b>.</p> <p><i>Franklin can help with any materials you may need as well. Please reach out to me privately and I will help you get what you need.</i></p>
<i>Course Resources</i>	<p>Here is a link to resources that are helpful to students during this course: Please refer to the Canvas course page for helpful resources.</p>
<i>Empowering Families</i>	<p>The following are resources available for families to assist and support students through the course: Please use ParentVue in Synergy to help and support your students and to monitor progress.</p>

## Section 7: Assessment of Progress and Achievement

<i>Formative Assessments</i>	<p>As students move through the learning journey during specific units/topics, I will assess &amp; communicate their <u>progress</u> in the following ways:</p> <ul style="list-style-type: none"> <li>● Warm Up Activities</li> <li>● Walking around listening to student discussions</li> <li>● In-class lab activities</li> <li>● Group work/group problem-solving</li> <li>● Exit tickets</li> </ul>
<i>Summative Assessments</i>	<p>As we complete specific units/topics I will provide the following types of opportunities for students to provide evidence of their <u>learned</u> abilities:</p> <p>There are multiple ways for students to demonstrate proficiency throughout the unit, including through lab participation and analysis and major projects. At the end of units, there may be a comprehensive assessment in which students may use their interactive notebooks to assist.</p>





<p><i>Student Role in Assessment</i></p>	<p>Students and I will partner to determine how they can demonstrate their abilities in the following ways:          Rubrics are created based on the standards and skills being covered in class.</p>
<p><b>Section 8: Grades</b>  <b>Progress Report Cards &amp; Final Report Cards</b></p>	
<p><i>Accessing Grades</i></p>	<p>Students &amp; Families can go to the following location for <u>up-to-date</u> information about their grades throughout the semester:</p> <p>ParentVue and StudentVue in Synergy will be the location of up-to-date, official grades.</p> <p>I will update student grades at the following frequency:          Grades will be updated in Synergy within one week of each graded assignment's due date.</p>
<p><i>Progress Reports</i></p>	<p>I will communicate the following marks on a progress report:</p> <p><i>Mark: HP</i>  <i>Meaning of the mark: Highly Proficient</i>  <i>-The student demonstrates a sophisticated understanding of the concepts and/or science practices.</i></p> <p><i>Mark: PR</i>  <i>Meaning of the mark: Proficient</i>  <i>-The student demonstrates a complete understanding of the concepts and/or science practices.</i></p> <p><i>Mark: CP</i>  <i>Meaning of the mark: Close to Proficient</i>  <i>-The student demonstrates a partial understanding of the concepts and/or science practices.</i></p> <p><i>Mark: DP</i>  <i>Meaning of the mark: Developing Proficient</i>  <i>-Assignment is not turned in and the student's understanding of the concepts and/or science practices cannot be determined.</i></p>



*Final Report Card  
Grades*

The following system is used to determine a student's grade at the end of the semester:

At the semesters (January and June), your average proficiency score will be translated to a letter grade that will be posted to your transcript based on the following numbers:

**A= 4.0-3.6      B= 3.5-3.0      C= 2.9-2.5      D= 2.4-2.0      Not Passing < 2.0**

The physics department at Franklin High School uses a proficiency based grading system to communicate with students their *understanding* of the concepts and skills being learned and explored in class. Rubrics are created based on the standards and learning targets being covered in class. Each proficiency score given will correspond to the assignment rubric so that students are aware of why they received a particular score. The final letter grade that will be on a student's transcript will represent an average of the overall scores of each skill in Synergy.

