

# Edison High School IB HL Physics

## 2018-2019 Syllabus

### **Contact Information:**

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We are committed to holding each of our students to the highest expectations and providing the necessary support so that they can be successful in meeting all of the learning targets.

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### **Textbook:**

- Pearson: Physics (Higher Level) Developed Specifically for the IB Diploma. (2009)
- you will have access to a physical copy as well as online access to the textbook

### **Course Overview:**

What is physics? Physics is the study of everything. Enough said? It is the study of the world around us and the world inside of us. It is the study of the biggest of things down to the smallest of things. It is the study of the macro and micro; from galaxies to subatomic particles. It is the study of matter and energy through space and time. It is the study of how things work and why they work. Physics is changing. Physics is challenging. Physics is weird and at times hard. It can also be fun. Physics is the underpinning of all other sciences and that's what makes it so important. Physics is a foundation to the study of most tertiary science courses.

The Higher Level Physics course is an intensive course in general physics. This course gives a non-calculus presentation of the fundamental parts of physics. The options lead to a deeper understanding of the fundamental parts of physics, or a discussion of some of its technique-oriented applications. At the end of IB HL Physics, a student will be prepared to continue their studies in physics at a university.

The purpose of this course is to prepare students for the International Baccalaureate Exam in Physics, at either the Standard Level or Higher Level. Current seniors will sit for the exam in May of 2019 while current juniors will sit for the exam in 2020.

**Units Covered:****Year 1:**

1. Measurement and Uncertainties
2. Mechanics
3. Circular Motion and Gravitation
4. Thermal Physics
5. Fields
6. Electricity and Magnetism
7. Electromagnetic Induction
8. Energy Production

**Year 2:**

9. Atomic, Nuclear, and Particle Physics
10. Waves
11. Wave Phenomena
12. Quantum and Nuclear Physics
13. Relativity or Astrophysics

**Materials Needed:**

1. Writing utensil (pen or pencil, you decide. However, science is messy and we make mistakes...)
2. Composition/Science Notebook
3. Calculator
4. Folder (you are going to want to keep everything you get back)

**Attendance:**

Show up to class. Secondly, show up to class on time. Your attendance is directly related to classroom success.

**Grading:**

<b>Rubric Score</b>	<b>Description</b>	<b>Grade Scale</b>	<b>Letter grade</b>
6 -8	<b>Exemplary</b> <i>Achievement outstanding relative to the level necessary to meet course requirements</i>	87-100 %	A
		75-86	A-
5	<b>Above Proficient</b> <i>Achievement exceeding the level necessary to meet course requirements</i>	71-74	B+
		66-70	B
		63-65	B-
4	<b>Proficient</b> <i>Achievement meeting the basic course requirements in every respect</i>	59-62	C+
		54-58	C
		50-53	C-
2-3	<b>Partially Proficient</b> <i>Achievement worthy of credit even though it does not fully meet the basic course requirements in every respect</i>	44-49	D+
		31-43	D
		25-30	D-
1	<b>Below Proficient</b> <i>Performance failing to meet the basic course requirements</i>	0-24	F
0	<b>Not attempted</b>		

### ***How does your grade break down?***

<b>80%</b>	<b>Learning Target Proficiency</b>
	50% Quizzes/Tests/Projects
	30% Laboratory Work
<b>15%</b>	<b>Assignments</b>
<b>5%</b>	<b>Class Participation</b>

#### **Learning Target Proficiency (80% Category)**

Each of the 13 units that will be covered in IB HL Physics is broken down into learning targets. You will have multiple opportunities to demonstrate proficiency in each learning target throughout the unit. These opportunities will include tests, quizzes, projects, and additional assessments. Learning targets will be graded using the rubric shown above. Laboratory work is included in this percentage.

#### **Assignments (15% Category)**

You will receive a weekly grade for assignments based on the rubric. Homework will be assigned Monday through Thursday. Assignments are designed to take 15-20 minutes. To be successful in this class, completing homework assignments is a necessity. Assignments are due at the START of the hour in order to receive credit.

#### **Class Participation (5% Category)**

Students are expected to participate in class. This means getting to class on time, taking care of any immediate work (warm-up), participating in class discussions or activities, and contributing to the academic process.

#### **What about retakes/rewrites?**

Students will be given multiple opportunities to demonstrate proficiency on all learning targets (LT). In order to be given an opportunity to retake a LT quiz, all work must be completed up to that point in the class. You will also be required to make corrections on the original LT quiz. You will have 10 days from the day the original LT is returned, to attempt a retake. If you received a mark of 6 or higher, then you will be given 5 days from the day the original LT is returned. Turning in coursework incomplete in order to retake a test is considered incomplete. Grades demonstrate a student's current level of understanding.

#### **Late work?**

You are responsible for getting your work turned in on time. Due dates will be posted and it is your responsibility to turn the work in on time, at the beginning of the period. You will have multiple reminders so that way you can succeed in every way possible. Late work will be accepted with a penalty. When turned in late, the assignment will be worth a maximum of 50% of its original value.

#### **Absent?**

You were absent the day an assignment was due? Was your absence excused? You get one day past the due date for each excused absence to make up work. Was your absence unexcused? Then the work will not be accepted, however, discuss the circumstances with your teacher.

#### **Extra Credit?**

Extra Credit is not offered in this course. Your grade is a reflection of your understanding regarding the learning targets in the class. If you would like to improve your grade, then you can demonstrate mastery of the material by retaking a quiz/test.

## **Tommie Creed:**

Team - I will respect myself and others by being open-minded and a good communicator.

Opportunity - I will prepare for college and the career of my choice by being a thinker and becoming more knowledgeable.

Make a Difference- I will honor myself, my family and my school by being principled.

Make it right - I will restore my relationships and advocate for myself. I will be caring and try to understand others by being an inquirer.

Integrity - I will make good decisions. I will stay balanced and be reflective about my choices.

Excellence - I will do my personal best and a positive risk-taker.

## **IB Learner Profile:**

### **Caring**

Respect yourself and respect others. This is your classroom; make the most of it.

### **Principled**

We act with integrity, honesty, fairness, justice, respect, and dignity. Come on time, come prepared.

### **Inquirers**

We are curious beings. Ask questions, question everything. Always ask appropriate questions.

### **Risk Takers**

To err is human. We make mistakes and that is awesome. Take risks, make mistakes, learn, move on.

### **Open-Minded**

We value others and appreciate the uniqueness each person brings to the classroom.

### **Knowledgeable**

Knowledge is built through class discussion, homework, classwork, and respectful interactions.

### **Communicator**

Explain your scientific thinking through clear and concise verbal and written communication.

### **Reflective**

Review your work including returned homework and assessments.

### **Thinker**

Come ready to learn and challenge yourself.

### **Balanced**

Have fun, work hard, you've got this.

## Classroom Engagement Plan:

Expectations	What does it look like?	How do we encourage meeting expectations?
<p><b>Enter the classroom/start of day</b></p> <ul style="list-style-type: none"> <li>• Be on time</li> <li>• Be prepared</li> <li>• Be engaged</li> </ul>	<ul style="list-style-type: none"> <li>• Teachers provide directions/Learning Targets/materials are available for guidance</li> <li>• Positive reinforcement</li> <li>• Review expectations</li> <li>• If tardy, enter class quietly and engage in learning right away</li> </ul>	<ul style="list-style-type: none"> <li>• Review Tommie Creed</li> <li>• Peers can give guidance</li> <li>• Teacher can give guidance</li> <li>• Dean can support teacher</li> </ul>
<p><b>Personal needs</b></p> <ul style="list-style-type: none"> <li>• No passes the first and last 10 minutes of class</li> </ul>	<ul style="list-style-type: none"> <li>• Will not grant pass request</li> <li>• Passes are at teacher discretion</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher will offer support</li> </ul>
<p><b>Group work</b></p> <ul style="list-style-type: none"> <li>• Group work should involve everyone</li> </ul>	<ul style="list-style-type: none"> <li>• Every group member is actively engaged in the activity and with their group</li> <li>• Members of the group ask questions of each other first and then ask the teacher if still stuck</li> </ul>	<ul style="list-style-type: none"> <li>• Ask thought provoking questions of group, but let the group find a solution</li> <li>• Encourage the group members to work together with positive reinforcement</li> </ul>
<p><b>Academic honesty</b></p> <ul style="list-style-type: none"> <li>• Be academically honest in all your work</li> <li>• Don't represent others' work as your own work</li> </ul>	<ul style="list-style-type: none"> <li>• Cite ideas that are not your own</li> <li>• Demonstrate your own learning/ideas in your own words</li> <li>• Teachers will model correct use of sources</li> <li>• Teachers will clarify group vs. individual products</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher may ask for a re-write or to re-do assignment</li> <li>• Teacher may use grading, dean or parent involvement to deal with repeated infractions</li> </ul>
<p><b>Self-advocacy</b></p> <ul style="list-style-type: none"> <li>• If you miss class, find out what you missed</li> <li>• It is your responsibility to get notes or assignments you have missed</li> <li>• Ask questions</li> </ul>	<ul style="list-style-type: none"> <li>• Ask for help from a classmate or check the class website.</li> <li>• Ask for help from the teacher at a time that will not interrupt classroom instruction or make an appointment.</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage students to help each other when confused or absent.</li> <li>• Teacher will update classroom LMS (if used)</li> <li>• Teacher will be available outside of instructional time.</li> </ul>
<p><b>Personal electronics (PEDs)</b></p> <ul style="list-style-type: none"> <li>• Personal electronics may <u>not be used.</u></li> </ul>	<ul style="list-style-type: none"> <li>• PEDs are put away in the proper location unless otherwise directed</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage distraction-free learning environment</li> <li>• Empower scholar responsibility to be exemplary student-citizens</li> </ul>

<p><b>Exiting the room</b></p>	<ul style="list-style-type: none"> <li>• Stay in your assigned area until the teacher dismisses you.</li> <li>• You may be dismissed by rows, groups or sections or one at a time at the teacher's choice.</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage bell-to-bell student engagement.</li> <li>• Use the end of class periods to focus on applying knowledge to the scholar's personal experiences and sharing it with the class at large.</li> <li>• Practice an exit routine.</li> </ul>
<p><b>Laboratory Work</b></p>	<ul style="list-style-type: none"> <li>• Teacher will provide clear written and oral directions and demonstrate any necessary techniques.</li> <li>• Students will follow basic safety rules with regard to the lab area.</li> </ul>	<ul style="list-style-type: none"> <li>• Basic rules posted in the classroom.</li> <li>• Lab privileges depend on maintaining good lab behavior and safety.</li> </ul>



## Walking Field Trip Permission Slip

My student: \_\_\_\_\_ ID# \_\_\_\_\_

has parent/guardian permission to walk within a 10 block radius of Edison High School during the 2018-2019 school year, which ends June 7<sup>th</sup>, 2018. The purpose is to use an alternative learning space. Students will be supervised.

### Parent/Guardian Contact Information:

Name: \_\_\_\_\_

Daytime Phone: \_\_\_\_\_ Evening Phone: \_\_\_\_\_

Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Alternate Emergency Contact:

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Does your student have any health concerns or conditions which will require additional supervision/accommodations while outside?  Yes  No

If yes, what should the teacher be made aware of, and what adaptations should be made:

\_\_\_\_\_

I/We understand the arrangements, and believe the necessary precautions and plans for the care and supervision of the students during the trip will be taken. Beyond this we will not hold the school or those supervising the field trips responsible.

Parent /Guardian Signature \_\_\_\_\_ Date: \_\_\_\_\_