

# IB Physics 1

## Syllabus

### 2019-2020

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**Office Hours:** Tuesday 2-3 and Thursday 2-3 or by appointment

#### **Course Description:**

Physics is the most fundamental of the experimental sciences, as it seeks to explain the universe itself from the very smallest particles—currently accepted as quarks, which may be truly fundamental—to the vast distances between galaxies.

**Instructional Units** in IB Physics 1 will include the following topics: kinematics, dynamics, circular motion and gravitation, energy, momentum, simple harmonic motion, torque and rotational motion, electric charge and electric force, DC circuits, and mechanical waves and sound.

#### **Individual investigation (internal assessment – IA):**

These assessments will centre upon the nature of science. It is the intention of this course that students are able to fulfill the following assessment objectives:

1. Demonstrate knowledge and understanding of: a. facts, concepts and terminology b. methodologies and techniques c. communicating scientific information.
2. Apply: a. facts, concepts and terminology b. methodologies and techniques c. methods of communicating scientific information.
3. Formulate, analyse and evaluate: a. hypotheses, research questions and predictions b. methodologies and techniques c. primary and secondary data d. scientific explanations.
4. Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

**Group 4 Project aims:** Through studying biology, chemistry or physics, students should become aware of how scientists work and communicate with each other. While the scientific method may take on a wide variety of forms, it is the emphasis on a practical approach through experimental work that characterizes these subjects. The aims enable students, through the overarching theme of the Nature of science, to:

1. appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
2. acquire a body of knowledge, methods and techniques that characterize science and technology
3. apply and use a body of knowledge, methods and techniques that characterize science and technology
4. develop an ability to analyse, evaluate and synthesize scientific information
5. develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
6. develop experimental and investigative scientific skills including the use of current technologies
7. develop and apply 21st-century communication skills in the study of science

8. become critically aware, as global citizens, of the ethical implications of using science and technology
9. develop an appreciation of the possibilities and limitations of science and technology
10. develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

**Text:**

Oxford IB Diploma Programme Physics text, along with the Oxford IB Study Guides (2014 editions).

**Required Course Materials:**

- Notepaper and 3 ring binder (there are lots of handouts)
- Pencils, Pens (blue and black), Dry Erase Markers
- Scientific Calculator
- Ruler (highly recommended)

**Identification badges are required for entry into the classroom. Per school policy, all students must be professionally attired (see dress code) and have a current CSHS ID badge on a lanyard around their neck in plain view.**

**Grading Policy:**

Grades will be based on lab experiments, skill checks, tests, homework, projects, and daily class work. Grades are located on-line and it is the student's responsibility to check grades frequently in case of error. Teachers are the final decision-makers for all grades.

**Grade Changes:**

We will provide many opportunities for students to demonstrate learning throughout the grading period. I have worked diligently to assure that each student is treated equitably. In order to maintain the integrity of grades, requests to change or "bump up" grades will not be considered. It is important to remember that a student's grade is a snapshot of content mastery during a relatively small (semester long) time frame; it certainly does not represent future potential.

If I have made a clerical error in calculating semester grades, I am able to make the appropriate changes in the following semester.

**Grade Categories and Percentages:**

Grades will be calculated based upon a weighted system.

- Tests 30%
- Skill Checks (Quizzes) 15%
- Classwork/Homework 10%
- Labs/Activities/ Projects 25%
- Final Exam 20%

Your final grade is determined using the traditional grading scale:

- 100% to 89.5% = A
- 89.4% to 79.5% = B
- 79.4% to 69.5% = C
- 69.4% to 59.5% = D
- Below 59.5% = F

### **Assessments:**

There will be no retakes or test corrections on any assessment. If a test or quiz is missed the day the student returns to class, the teacher can have them make up the test or quiz in class. They will then need to come after school to get the material they missed that day while they were taking their test/quizzes. There will be no makeup quizzes administered after the next scheduled assessment has taken place. Labs will need to be made up after school by appointment within the 2 day district policy. Alternative assignments may be given for some missed assignments – the same concept will be covered. Written assignments and homework can be made up at home. If the make-up work is not turned in on time, a grade of zero will be earned.

### **Skill Checks**

Students have a chance to demonstrate their comprehension of previous material twice a week with Skill Checks. On Skill Check days, a question will be posed that can be in the form of a problem to be solved or a conceptual question that requires an answer written in complete sentences. Most of these will be graded immediately. They will be graded as described below:

4-point scale: 1 ----> No real attempt to give a coherent answer.

2 ----> Some attempt, but skill/concept not understood.

3 ----> Generally correct process/concept; 1 or 2 small errors.

4 ----> Completely correct answer; showing work and appropriate units.

### **Unit Tests**

The standard written tests (mix of short answer problems and multiple choice problems) will be announced at least one week in advance so that students have time to organize and review the concepts.

### **Homework Policy:**

Students receive assignments on a regular basis. Assignments may consist of readings, worksheets, or online activities/reflections.

Paper assignments are due at the start of class. The teacher will date stamp the assignment if the student did **every problem**. Students are expected to genuinely attempt every problem and show legible, written evidence of this. "I don't get it" is not an acceptable excuse for not attempting the homework. Students with questions about the homework should plan to attend office hours, consult a classmate, or consult the textbook or internet resource for additional help.

On the day of a Unit Test, students bind their homework together and turn it in.

- stamp = 5 pts
- no stamp, but complete = 3 pts
- incomplete = 1 pt

**Attendance:**

Good attendance is a critical part of being a proactive, engaged learner. I understand that some absences are inevitable and beyond our control, and in those cases it is important to take responsibility to compensate for missed learning experiences (see absence policy below).

**School Absence Policy**

If you are absent, you are responsible for finding out about any make-up work, assignments, notes, or labs. You can e-mail teachers to request homework to pick up during an absence. For every day of excused absence, a student has two days to make up homework, classwork, quizzes, and tests (parents have 24 hours to contact the school to excuse the absence). All make up work from an excused absence is eligible to receive full credit if completed and turned in within the 2 day window. Some courses such as Honors, Advanced Placement, International Baccalaureate and Dual Enrollment courses have numerous long-term projects or portfolios, which may have absolute deadlines. Students will be advised of these project/portfolio deadlines in the course syllabus or on grading outlines and will be expected to turn in projects/portfolios prior to the designated date for credit regardless of days absent. Assignments, tests, quizzes not completed within the 2 day window will receive a zero. (Ref: Board Policy JH-R)

Unexcused absences will result in no credit for the work done in class that day (including assessments). If a student is absent more than ten days during the semester, they may lose credit for the course, per CCUSD policy.

**Tardiness:**

Tardiness to class is disrespectful and unacceptable. You are tardy if you are not in your seat at the bell. The consequences for being tardy are assigned detentions, parent contact and finally a referral to administration.

**Quality and Timeliness of Work:**

Work is considered late if it is not turned in at the beginning of class, the day it is due.

Illegible work will not be graded. I will accept assignments one day late at 50% credit. After one day NO late work will be accepted! Some assignments cannot be accepted for late credit if answers were discussed in class.

Your teacher will be assigning some long-term and internet based assignments. Ample time will be given to complete these assignments, so the due date is firm. Be sure to complete each assignment well before the due date to avoid any unexpected problems (illness, computer problems, etc). If a serious problem arises, you are expected to communicate with your instructor well before the due date so that the problem can be remedied. Remember that computers are available in the school library and at other local libraries. You must keep all assignments as they will be going into your notebook. These assignments will be crucial for helping you prepare for the Final Exam.

## **District Policy JK-R**

A student may be subject to disciplinary action when the student engages in any of the following forms of academic misconduct:

- Lateness** - For missing or leaving school or class without permission or excuse.
- Cheating** - Including but not limited to copying, using unauthorized help sheets and the like, illegally obtaining tests in advance, substituting for a test-taker, and other forms of unauthorized collusion.
- Plagiarism** - Representation of the ideas or work of another person as his/her own.
- Collusion** - Supporting malpractice by another student as in allowing one's work to be copied or submitted for assessment by another.
- Duplication of work** - Presentation of the same work for different assessment components and/or requirements.
- Fabrication of Data** - Manufacturing data for a table, survey, or other such requirement.
- Any behavior that gains an unfair advantage for a student and/or affects the results of another student.**

Under **NO** circumstance are students allowed to “share” answers on assignments, warm ups (bellwork), labs, quizzes, or tests. Submitting a lab report without laboratory completion (i.e., a “dry lab”), is fabrication of data and will be considered cheating. Additionally, students should not be in possession of other students' papers. The use of textbooks, “cheat sheets,” cell phones or any other digital resources during tests or quizzes is also not permitted. Whenever two people are involved in a cheating episode, **BOTH** the person providing the answer and the person receiving the answer will earn a zero.

Cactus Shadows High School takes academic dishonesty seriously. Any violation of this policy will result in a zero for the assignment/assessment for a first offense, a zero for the assignment/assessment and short term suspension for a second offense, and a loss of credit for the semester course (.5) and short term suspension for a third offense.

Students who share assignment/assessment information with other students via pictures, paper or electronics will receive a zero on the assignment/assessment and a short term to long term suspension (prior academic misconduct referrals from any other school or CCUSD grade level will be considered).

### **Behavior, Self-Discipline, Respect:**

Our goal is to maintain an effective and safe learning environment for every student. Students are expected to manage their behavior and abide by the posted classroom rules outlined in the student handbook. The science department has a “zero tolerance” policy for distracting and unsafe behavior in the laboratory! Unsafe behavior will result in immediate removal from the lab, loss of points, and possibly other disciplinary action. Students are strictly prohibited from removing any materials from the classroom.

### **Students Leaving Class:**

Students will be provided with a limited number of passes that can be used to leave the classroom in order to take care of personal matters. When using a pass you should be gone no longer than 10 minutes. The passes cannot be used during the first ten minutes or the last ten minutes of the class period. Please use your passing time between classes wisely and take care of personal matters then.

**Electronic Devices:**

Classrooms are designated as 'No Phone Zones'. Cellphones, ear buds, Airpods, or any other electronic devices are not to be seen or used in classrooms for any reason other than teacher-requested academic activities. Upon entry into the classroom, students should turn off and stow all devices in their backpacks. If you bring your cellphone, earbuds, or Airpods to school and they are damaged or lost, the school and teacher cannot be held responsible. Recording any activities in class without the express permission of the teacher and other students is prohibited and subject to a discipline referral. .

**Guest Teachers:** We value our Guest Teachers. The expectation is that our students treat our guests with the highest level of respect and support. Students who do not exhibit FALCON PRIDE while in the classroom with a guest teacher will receive appropriate discipline.

I am here for YOU!!! If you do not understand something, need extra help, or want to review, please come to me. You may call or email me. I will make every effort to help you.

**Disclaimer:** Course information listed in this syllabus is subject to change at the discretion of the instructor. The instructor will explain the rationale for any variance as it occurs.

## CSHS Physics Syllabus for 2019-2020

### Return this Page with Signatures

I have read all pages of the CSHS Physics Syllabus for 2019-2020, and I understand and accept the policies and procedures outlined therein.

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Student Name (please print)

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Student Signature

Date

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Parent(s) name(s) (please print)

Email

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Parent(s) signature(s)

Date

Place for parent comment: