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Physics Course Syllabus

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Website: [LJHS Homepage link – \(Faculty Directory\)](#)

For Due Dates and Assignments - Recorded in student planner, and posted on website.

An easy and free language translator. <http://translate.google.com/?hl=en&tab=wT>

COURSE RATIONALE –

Physics fulfills one year of physical science credit towards high school graduation. It is a lab-based course and meets the lab-based science component of the A-G requirements for the UC system.

Course Description - Physics

A course focused on concepts of motion, vectors, forces, momentum, energy, motion in the heavens, light, optics, sound, and electricity. Students will utilize laboratory experiments, demonstrations, engineering projects, and computer programs, and will spend some time viewing physics from a cultural or historical perspective. Emphasis is on thinking and concept development. The course is designed to emphasize conceptual development and understanding rather than mathematical calculations, however it is math-based and knowledge/use of algebra is essential.

Prerequisite – Students should have passed Algebra 1 – 2 with a C or better.

BASIC GOALS –School ESLRs

1. Students will demonstrate effective oral and written communicative skills, and will be able to use technology when applicable
2. Students will develop the interpersonal skills necessary to work collaboratively and effectively with other in order to be contributing members in a global society
3. Students will be able to demonstrate the higher order thinking skills of analysis, synthesis, application, and evaluation.
4. Students will be able to demonstrate knowledge of the worlds various viewpoints, belief systems, and cultures

Key Points

1. Students will learn the concepts and skills mandated by the Next Generation Science Standards, Common Core, California State Standards, (<http://www.cde.ca.gov/be/st/ss/scmain.asp>) and will be prepared student to take and do well on the Physics SAT test. All physics students will follow a schedule posted in class and communicate in ways to develop skills for success on the Common Core and NGSS tests.
2. To have students better understand scientific theories by experiencing scientific phenomena through laboratory experiences.
3. To further develop student expertise in both laboratory and literature research skills.
4. To have students develop and use logical thought processes and thinking skills to solve scientific and science related problems.
5. To increase student awareness of the role of science and scientists in today's society.

SCHOLARSHIP (Grades are posted in class and at web site listed)

The grading scale used in Regular and Advanced Physics follows:

Letter Grade	Percentage
A	90.0 - 100
B	75.0 – 89.9
C	65.0 – 74.9
D	55.0 – 64.9
F	0 – 54.9

Approximate Grade Percent: Final Exam 10% Homework 20% Notebook 20% Labs/Notes 20% Quizzes 10% Tests 20%

CITIZENSHIP

The rules of operation can be summarized into two basic statements.

1. Do all your work and turn it in on time.
2. Don't distract others from learning or teaching.

STUDENT EXPECTATIONS FOR SUCCESS / HOMEWORK INFORMATION

1. Each student will have an email account, either commercial or through the La Jolla High School server.
2. Major (full write up) laboratories will be typed or word-processed following the Lab Write Format using a minimum font size 12. Word processing is available in Room 902, the computer lab and library.
3. All students will keep and use an Interactive Notebook (INB) to process information, use on tests and record information.
4. All students are required to communicate experimental findings through laboratory write ups using a standard scientific format with standard English grammar using complete sentences, logical thought and detailed references to experimental findings.
5. All students are expected to come to class fully prepared to take part in the day's activities. Students are expected to complete research or background knowledge for intelligent participation and actively participate in the class activity.

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6. Tardies may not be made up. Assignments missed due to tardies may not be made up. The La Jolla High School Tardy Policy will be enforced and followed.

7. Student Support will be provided in a number of ways shown but not limited to:

Before Instruction: Specific Content Standards goals and outcomes will be identified, assigned pre-reading, website/on-line videos/interactions, assessing prior knowledge through class discussion

During Instruction: Specific Content Standards goals and outcomes will be identified, Teacher assessment via individual discussions with students, checking work and reinforcement through stamps and spot checks, peer discussion groups, group calculations and check, assigned student leader of discussion topics, assignments, practice problems, quizzes, lab calculations, Cornell Note assessment, DUFAS calculations, homework problems and quizzes, practice test/quizzes/lab information, vocabulary index in INB, INB Gems of Wisdom page, INB Adult Input Page

After Instruction: Specific Content Standards goals and outcomes will be identified, Test review of missed questions and concepts with peer groups and showing work in calculations for partial credit, teacher retains graded tests to help review for future assessments, Interactive Notebook (INB) is kept up-to-date

Throughout the Year: Help is available before school, at lunch and after school by appointment.

Specific Information

1. Grades are based on the percentage of points earned. To calculate the grade of a student, the total number of points earned is divided by the total number of points possible. Percentages are calculated.

2. Classwork and homework are major portions of the grade. Expect homework on a nearly daily basis (including weekends). Homework and reviewing (study time) should be about 20 minutes a day outside of regular class time. Homework may be questions from the text, special processing assignments, reading notes, pre-lab write ups, data analysis or conclusion questions as well as long term projects. Save your papers as evidence in case a clerical error is made. Without the assignment in hand, no credit for the assignment will be given. Clerical errors must be fixed within **two weeks** of grades being posted in class.

3. Work missed is the responsibility of the student.

A. Missed labs may not be made up after the equipment is put away.

B. When the total number of absences reaches a total of **10** (no matter the reason) the report card comment – **EXCESSIVE ABSENCES**

OR TRUANCIES MAY EFFECT GRADE will be marked. The wording is the standard comment printed by the district and the word TRUANCIES will appear even if no truancies were earned.

4. Work turned in late is half credit at best. Papers without names, which are later identified, suffer a late work penalty. **No late work is accepted more than two weeks late.**

5. A student absent on the date an assignment is due, must turn the assignment in the day he or she returns to class. A note must be attached to the assignment indicating the date(s) of absence.

6. **Missed quizzes due to tardiness may not be made up. NO EXCEPTIONS WILL BE MADE.** Quizzes missed due to an excused absence should be taken the day the student returns to class.

7. If absent on a test day, the test should be made up upon the first day back to school. A 10% reduction of test grade may be assessed due to habitual absences the day of the test.

8. All students are required to do projects such as scientific essays, art or photographs, physics story book, tower, egg drop, car project, timing device, soldering project and others to be announced. **Each project is a major portion of the grade and approximately equal to a test.**

9. Interactive Notebooks are used daily in class. The notebook is approximately 20% of the course grade.

10. Students may earn a **maximum of ONE percent or 50 points of the grade earned via extra credit (whichever is greater)**. Extra credit assignments are not required. More information on each type of extra credit will be available later. **Extra credit points are added in at the end of the semester.**

10. Students are expected to maintain a grade of 'B' or better.

11. If a student falls behind in class or has difficulty on quizzes or exams, extra help is available. Help may be obtained by contacting the teacher before or after school or during lunch times. Obtaining extra help is the responsibility of the student.

If an emergency arises, a compromise or individual contract may be arranged after a conference between the student and teacher.

This class is based on the HONOR SYSTEM. All work is to be your own. Copying assignments, labs, quizzes and tests is unacceptable. The La Jolla Honor Code will be followed and enforced.

One Violation – Zero (F) on Assignment, U for Citizenship.

Two Violations – F in Class, U in Citizenship, Dropped from Course

For Due Dates and Assignments - Posted in class, and on teacher website.

Key Points – Extra Help is available. Extra Credit is available. Students must be able and willing to obtain extra help or tutoring as needed.

The Interactive Notebook (INB) is the key to success in class and is used as a review and study tool for the tests and quizzes in class.

Parents – please contact us via email or phone with questions or concerns about your son's or daughter's success or progress in class. Grades are posted about every 2 to 3 weeks on PowerSchool – You will need the student ID number.

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Anticipated Time For Major Units of Study

Unit	Projected Time (Weeks)	Total Time (Weeks)
Intro - Significant digits, graphing, lab procedures, notebook management, notetaking	3	3
Motion, Kinematics (Linear and Circular) and Graphical Analysis	4.5	7.5
Forces - Newton's Laws, F=ma, Friction, Gravity, Centripetal	4	11.5
Energy - Work, GPE, KE, Springs, Law of Conservation of Energy	4	15.5
Momentum – Single and Multiple Objects, Law of Conservation of Momentum	4	19.5
Heat - Laws of Thermodynamics, Heat Engines, Specific heats, Heat of Fusion, Heat of Vaporization	3	22.5
Waves - Sound, Light, Mechanical, EM, Wave properties	3	25.5
Optics – Mirrors, Lenses, Ray Tracing, Single and Multiple Lens Systems	3	28.5
Electricity - Static and Current Electricity, Simple Circuits	4	32.5
Magnetism	2	34.5
Finals and Testing	1.5	36