

CP1 Physics 1 Syllabus

Mr. Bigler, Lynn English High School
September 2016

Course Description

CP1 Physics 1 is a course designed for high school students in grades 11 & 12. Topics studied include kinematics (motion), forces, energy, momentum, electricity & magnetism, waves, fluids, and heat. The course requires that students be comfortable describing and solving real-world problems using algebra, geometry, and simple trigonometry. The course is supported by an interactive, inquiry-based laboratory environment where students gain hands-on experience with the concepts being studied. The content of this course is derived from multiple sources, including the SAT Subject Test in physics. The course exceeds the requirements of the Massachusetts Curriculum Frameworks for high school physics.

Information

Course Name: Physics 1

Syllabus URL: <http://www.mrbigler.com/Physics-CP1/syllabus-Physics-1.PDF>

LPS Course Number: 422

Credits: 6 credits

School: Lynn English High School

School Code: 221265

Room: 304

Teacher: Mr. Bigler

Email: MrBigler@MrBigler.com (preferred); also BiglerJ@LynnSchools.org

Afternoon Back: Wednesday; I'm usually also available most Mondays, Thursdays & Fridays

Science Prerequisites: passed MCAS Biology *and* passed Chemistry 1.

Math Prerequisite: B– or better in Algebra 2

Text: Mr. Bigler's *Physics Notes* (issued in lieu of a textbook. You may use a school-issued copy and return it at the end of the year, or you may purchase a copy to keep (and write in). (Details TBD.)

Optional Supplemental Text: If you want a traditional textbook to use for reference, you may sign out a copy of *Physics: Principles and Problems* by Zitzewitz, Neff & Davids. We will not use this text in class.

Required Materials:

- Notebook for taking notes *and/or* printed copy of Mr. Bigler's *Physics 1 Class Notes*
- folder or binder (to keep worksheets & handouts)
- composition book (with permanently attached pages) to use as a lab notebook
- scientific (or graphing) calculator (must have exponents, trigonometry functions and scientific notation)
- writing implements

Classroom Expectations

Detailed policies & procedures are described in a separate document.

In summary:

1. Maintain a positive attitude, with ongoing effort and willingness to be proactive about getting extra help when needed.
2. Complete all assignments in the time allotted, unless prior arrangements have been made.
3. Be present during class, both mentally and physically. Arrive on time. Maintain focus and effort. Contribute to discussions. Bring completed assignments, textbook (Mr. Bigler's *Physics Notes*), calculator & writing implements to class.
4. If you are struggling, come in for extra help after school. My official afternoon back is Wednesday. However, I am usually available in my room after school every afternoon except for Tuesdays (which is when the Science Team meets) unless I have a meeting scheduled. (Please check with me during the day to make sure. Faculty meetings are on the first Wednesday of every month; science department meetings are on the second Thursday of every month.)
5. Do your own work on tests and quizzes. Cheating, copying, plagiarism, or allowing someone else to copy your work will result in a zero and notification of parent or guardian.
6. Treat all staff, students, equipment and furniture appropriately and respectfully.
7. I do not use a lab safety contract—safety is required at all times and is not something you have the option of agreeing to or not. I will not micromanage your lab experiences, but I will make sure you know what the potential dangers are and how to keep yourself and everyone else safe. Safety violations may result in a disciplinary referral, loss of the privilege of participating in the lab or activity (which may result in a failing grade) and/or payment of restitution for damaged equipment.
8. Adhere to all school rules, policies and procedures as published in the student handbook.

Grades

Your grade is the grade calculated by the eSchool Plus grading system, based on the grade weights entered by Mr. Bigler. The grade weights entered are:

- Unit tests, formal lab reports, and major projects: 100 points
- Quizzes, lab write-ups, and minor projects: 50 points
- Participation in lab experiments: 25 points
- Homework & classwork assignments: 5 points
- Mid-term and final exams: 150 points

Mr. Bigler is responsible for entering grades and weights into eSchool Plus, but the grades themselves are calculated by eSchool Plus. In the past there have been inconsistencies in the way eSchool Plus calculates grades, and that changes have sometimes been made to eSchool Plus without notice, resulting in unexpected changes to students' grades.

If you believe that your grade has been calculated incorrectly, it is *your* responsibility to bring it to my attention. If this happens, I will check the calculation manually and adjust your grade as appropriate.

Homework

Homework is due at the beginning of class and will be graded $\checkmark+$ (5 points) or $\checkmark-$ (4 points), based on how much of the homework you attempted (effort, with work shown). Going to your locker to retrieve your homework after class has started costs 1 point. Late work is worth 3 points before the unit test on the topic, and 2 points afterwards. Students who are in the building at any time during the school day (even if they are on a field trip during physics class) are expected to turn in assignments on the due date.

Attendance & Make-Up Work

Absent students are expected to obtain and complete any assignments that they missed. Absent students are also expected to schedule make-up tests with Mr. Bigler within one week, unless other arrangements are made on the day the student returns to school. According to LEHS policy, students who have seven or more unexcused absences during a quarter (as calculated by eSchool Plus) will receive a failing grade for the quarter in all classes.

Course Outline

The following is an outline of the topics studied in CP1 Physics 1. Please note that the schedule and topic list are subject to change.

Quarter 1: Mathematics & Measurement; Kinematics

Quarter 2: Forces & Newton's Laws; Gravitation; Circular Motion

Quarter 3: Work, Energy & Power; Momentum; Electricity & Magnetism

Quarter 4: Waves & Sound; Fluids; Thermal Physics (Heat)