



LISLE SENIOR HIGH SCHOOL

Physics Syllabus

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DEPARTMENT MISSION

The mission of the Lisle High School Science Department is to promote life-long learning and acquisition of knowledge through the use of science and engineering practices. The student's classroom experience will encourage the development of intellectual curiosity and scientific literacy. The department provides effective and challenging curriculum and instruction based on the Next Generation Science Standards. Science teachers at Lisle High School consistently utilize best practices to deliver the curriculum, including cooperative learning, guided practice, independent practice, laboratory experiences, modeling, problem-based learning, real-world applications, and use of technology.

The department offers courses in the life sciences, the physical sciences, and Earth and space science as well as three Advanced Placement courses in biology, chemistry, and environmental science. The courses are sequential and intend to prepare students for college and beyond. Most college admissions criteria include a minimum of at least three credits in laboratory science. Students who are planning careers in science, engineering, health, or technical fields should strongly consider three or four years of science.

COURSE DESCRIPTION

In this course, students will utilize scientific practices to discover knowledge and overarching concepts related to physical science. Students will recognize unifying themes that integrate the major topics of Physics including one-dimensional and two-dimensional motion, accelerated and circular motion, and momentum. Students will also explore energy, charging and electrical circuits, and waves, including sound, color and light. The curriculum integrates critical thinking, experimental design and laboratory skills. These skills will be developed using, mathematical modeling, data interpretation and graphical analysis.

COURSE LEARNING STANDARDS

The science courses at Lisle High School are based on the three dimensions of the Next Generation Science Standards adopted by the state of Illinois. Below are the standards that students will be engaged with and assessed on in this course.

Core Ideas	Scientific Practices	Cross Cutting Concepts
<ul style="list-style-type: none"> Forces and Motion Definitions of Energy Conservation of Energy and Energy Transfer Relationship between Energy and Forces 	<ul style="list-style-type: none"> Asking questions (for science) and defining problems (for engineering) Developing and using models Planning and carrying out investigations Analyzing and interpreting data Using mathematics and computational thinking 	<ul style="list-style-type: none"> Patterns Cause and effect Scale, proportion, and quantity Systems and system models



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<ul style="list-style-type: none"> • Properties of Matter • Wave Properties • Electromagnetic Radiation 	<ul style="list-style-type: none"> • Constructing explanations (for science) and designing solutions (for engineering) • Engaging in argument from evidence • Obtaining, evaluating, and communicating information 	<ul style="list-style-type: none"> • Energy and matter: Flows, cycles, and conservation • Structure and function • Stability and change
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COURSE TEXTBOOK

Conceptual Physics

©2009, Prentice Hall

ISBN: 978-0-13-364749-5

COURSE GRADING POLICY

Students will have the opportunity to demonstrate their mastery of the standards through formative assignments and summative assessments. Formative assignments are used to determine what a student knows and still needs to learn before being held accountable for mastery. Summative assessments measure a student's understanding and/or skills on clearly defined outcomes. Mastery is expected on a summative assessment after appropriate instruction has been given and sufficient formative practice has been offered to the student.

Semester Exam = 20%

Semester Grade = 80%

Formative assignments, 25%

Summative assessments, 75%

Make-Up Work Policy:

Assignment due dates and assessment dates are determined by the teacher. In the event a student is absent from class, he/she has one additional day but no more than one week (7 calendar days) after returning to school to complete any formative assignment make-up work. An incomplete will be the gradebook placeholder until the deadline. If work has not been completed by the deadline, a score of zero will be recorded. The science department will follow the LHS student handbook for absences on assessment days. Students have one day per day absent to complete any summative assessment. For a lengthy absence, the teacher and student will work together to determine a completion timeline for all make-up work and assessments. If a student does not complete any work on the task/assessment, the teacher may assign a zero.

Late Work Policy:

Formative assignments turned in after the due date and by the deadline (one week or 7 calendar days) may receive a lower grade. Work submitted after the deadline will be recorded as a zero.

REASSESSMENT GUIDELINES

The school wide policy is that the teacher will provide a student a minimum of one reassessment opportunity after a summative assessment has been administered and recorded in the gradebook.

- In order to have a reassessment opportunity, students need to complete all formative assignments prior to the summative reassessment.
- A student will need to do the following in order to reassess:
 - Complete a self-reflection on the original assessment.



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- Complete a relearning activity that is reviewed by or with the teacher. The completed relearning activity must demonstrate improved understanding before the reassessment is granted.
- All reassessments must be completed within a two week window from the day the original assessment is returned.
- A student may be allowed to retake deficient sections of the original summative assessment, as opposed to retaking the whole assessment again at the discretion of the teacher.
- Students will earn their best score on the reassessment, with a maximum replacement score of 85%.
- Reassessments will be offered before or after school with the teacher or at Learning Lions. The student may request a retake during their study hall, but the teacher may not always be able to honor the request.

COMMUNICATION WITH COURSE TEACHER

If students or parents have any concerns regarding the course please contact the instructor via email or phone using the contact information provided. As a general rule you should expect the teacher to return your email and/or phone call within one business day. If a student intends to communicate electronically with a teacher, he/she must use their school-issued google account.

CHROMEBOOK

Your Chromebook laptop is an important learning tool and is for educational purposes only. You are expected to bring your charged Chromebook to class every day. Your Chromebook is your responsibility and will stay in your possession at all times. The Science Department will enforce the “Lids Up, Lids Down” policy—the laptop lid is up when you are expected to be working on something for class, the laptop lid is down when the teacher instructs you to do so.

ELECTRONIC DEVICES

All personal electronic devices other than your Chromebook are not to be seen or heard in class. Although they might serve some educational benefit for the student, all assignments and class activities can be completed using Chromebook devices only. With permission or instructions from the teacher, students may use personal electronic devices for recording or documenting class phenomenon.

OTHER SUPPORT

Help is available from teachers either before or after school. Students should make an appointment to verify the teacher’s availability. Help is also available Monday-Friday from student resource tutors in the library before school, during most class periods, and after school.